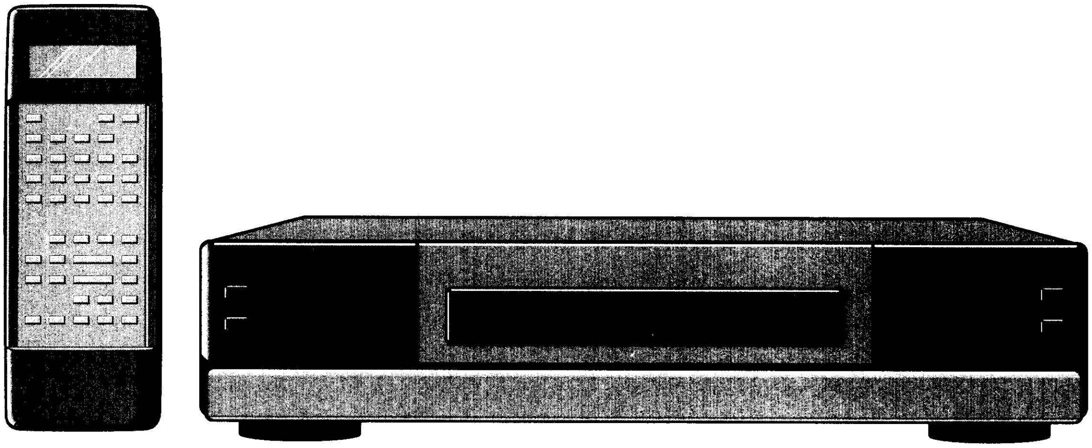
SANYO

Service Manual

Video Cassette Recorder

VHR-190 series
VHR-194G
VHR-191, SP


VHR-190E

VHS PAL HQ

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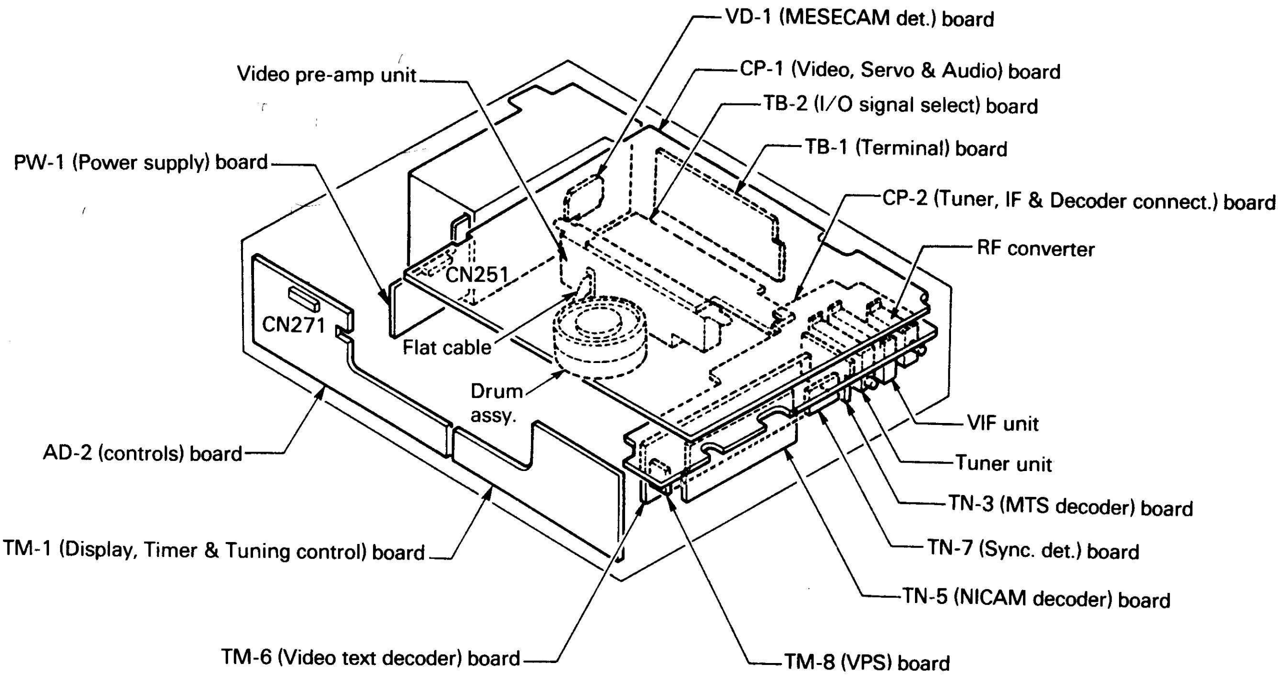
VP4H, VP4HV series

REFERENCE No. WM530870

1. CIRCUIT BOARD LOCATIONS

1-1. MAIN BOARDS

L13L046


VD-1 (MESECAM det.) board
Video pre-amp unit
CP-1 (Video, Servo & Audio) board
TB-2 (I/O signal select) board
TB-1 (Terminal) board
PW-1 (Power supply) board
CP-2 (Tuner, IF & Decoder connect.) board
RF converter
CN251
CN271
Flat cable
Drum assy.
VIF unit
AD-2 (controls) board
Tuner unit
TN-3 (MTS decoder) board
TM-1 (Display, Timer & Tuning control) board
TN-7 (Sync. det.) board
TN-5 (NICAM decoder) board
TM-6 (Video text decoder) board
TM-8 (VPS) board

Installed specific equipment and models

TN-3 (MTS decoder) board: VHR-194G, 190ES, 190I, 190 and 19I.
TN-5 (NICAM decoder) board: VHR-190E, 190ES and 19SP.
TM-5 (OSA: on screen assist) board: VHR-190 series and 19I.
TM-6 (Video text decoder) board: VHR-194G and 19SP.
VD-1 (MESECAM dec.) board: VHR-194G and 190ES.
TM-8 (VPS) board: VHR-194G only.

Fig. 1-1

1-2. LOCATION FOR TAPE PATH ADJUSTMENT

NOTE: Test point TP182 and TP183 for tape path adjustment is shown in figure below.
For adjustment, refer to the separate volume "Mechanism Service Technical Information".

P06L047

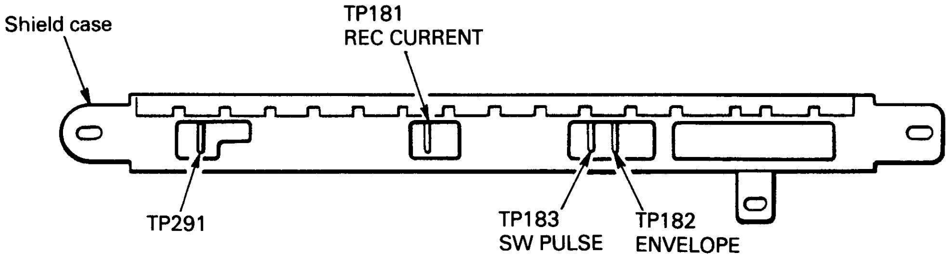

Shield case
TP181
REC CURRENT
TP291
TP183
SW PULSE
TP182
ENVELOPE

Fig. 1-2 Pre-amp Unit

2. ELECTRICAL ADJUSTMENT

2-1. PREPARATION

2-1-1. EQUIPMENT

- Colour TV monitor
- PAL Colour-bar generator (with RF and LINE OUTPUT)
- PAL TV test signal generator (Multi-burst signal with colour burst)
- Audio signal generator
- Oscilloscope (dual trace; frequency response: 10MHz or more; probe: 10:1)
- Frequency counter (countable to 10MHz or higher)
- Digital voltmeter
- AC voltmeter
- In/output probes
- Alignment cassette (VHJ-0008) PAL Colour bar 1KHz
- Alignment cassette (VHJ-0009) Monoscope 6KHz
- Alignment cassette (VHJ-0051) Check for D.O.C.
- Alignment cassette (VHJ-0023) PAL Monoscope 6KHz, PAL Colour-bar 1KHz, SECAM Colour-bar 1KHz, PAL RF Sweep MESECAM Colour-bar 1KHz, NTSC Colour-bar 1KHz.
- Alignment cassette (VHJ-0080) PAL colour bar HiFi BPF
- Alignment cassetee (VHJ-0020) AF level colour bar 1KHz
- Relay jig (VHJ-0067) 12-wire cable for Pre-amp unit
  Connect the Flat cable end from the Drum assembly to the Pre-amp unit using the Relay jig to provide simple repairing and adjustment of the Pre-amp unit, as shown in Fig. 2-1-1. Further, when adjusting the Pre-amp unit, be sure to make contact an end of Shield case with Bracket of the Pre-amp unit to maintain the shield effect.
- **Relay jig (VHJ-0086) for AD-2 board**
  Connect the Flat cable end to CN251 of the CP-1 board and other end to CN271 of the AD-2 board using the Relay jig (Shown in Fig. 2-1-2) to provide simple repairing and adjustment of the AD-2 board.

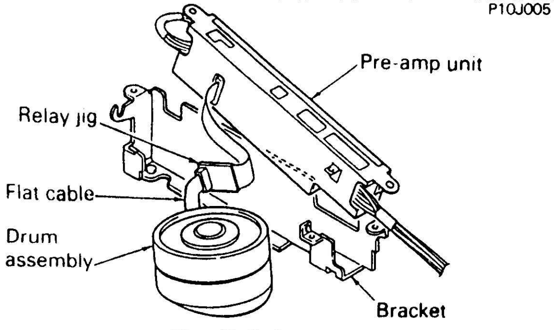


Fig. 2-1-1

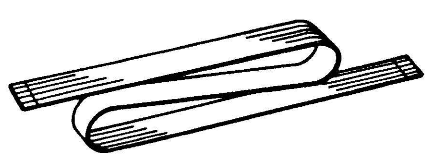


Fig. 2-1-2

2-1-2. SET-UP

Because the RF input signal is used for circuit adjustments, connect the colour-bar generator to the ANT IN terminal of the VCR. The RF input signal is processed by the tuner and IF circuit. It is important that the video output signal of the IF circuit satisfies the items shown in Fig. 2-1-3. Connect the oscilloscope to the VIDEO OUTPUT terminal of the video circuit and terminate with a 75Ω load, and then check the video output signal.

- The amplitude of the sync signal should be approximately 0.3 Vp-p.
- The amplitude of the video signal should be approximately 0.7 Vp-p.
- While observing the oscilloscope or TV screen, make fine-tuning adjustments so that the colour burst amplitude is approximately 0.3 Vp-p.
- Check to be sure that there is no spike noise in the sync part of the horizontal sync signal.

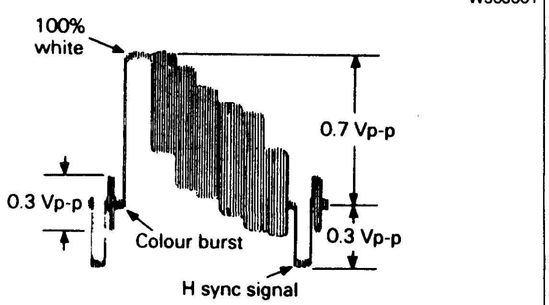
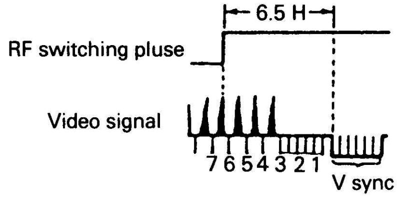
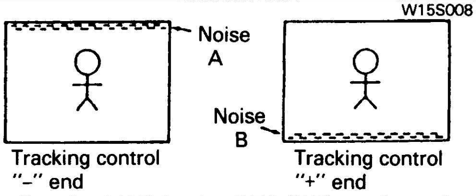
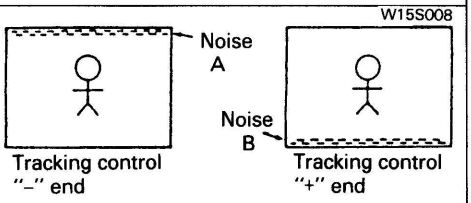


Fig. 2-1-3

2-2. SERVO CIRCUIT ADJUSTMENT ..... CP-1 board and VP-1 Pre-amp unit

NOTE (1) : These adjustments should be carried out upon completion of the transport adjustments.
(2) : If the tape transport adjustments are carried out after these adjustments, follow the procedures again in SWITCHING POSITIONS.

No.	Item	Input	Mode	Point	Location	Remark
1	SWITCHING POSITION	Alignment cassette (VHJ-0009 or VHJ-0023)	PLAY	VIDEO OUTPUT TP101 RF SW pulse TP351 (CP-1 board)	VR351	W25S001  6.5 H RF switching pluse Video signal 7 6 5 4 3 2 1 V sync 1. Turn VR351 fully clockwise (seeing from the foil side) in the STOP mode. 2. Set the tracking control position to the center. (Tracking center position display in the indicator panel "T —:— ") 3. Play back the test tape and adjust VR351 so that the phase of the leading edge of the vertical sync signal is delayed 6.5 ± 0.5 H from the rise of the RF switching pulse waveform. 4. If the adjustment value does not changed by adjustment, repeat steps 1 through 3.
2	STILL V-LOCK for SP MODE	Colour bar from Colour bar generator	REC (SP) ↓ PLAY (SP) ↓ STILL (SP)	TV screen	Tracking control buttons (Front panel)	1. Put the VCR in the REC (SP) mode and record at the middle of the cassette tape. 2. Playback the recorded part, and put the VCR in the STILL (SP) mode. 3. Press the (+) or (–) tracking control buttons until V jitter (very fine movement of the vertical sync) is minimized.
3	SLOW TRACKING for SP MODE	Colour bar from Colour bar generator	REC (SP) ↓ PLAY (SP) ↓ SLOW (SP)	TV screen	VR353	W15S008  Noise A Noise B Tracking control "–" end Tracking control "+" end 1. Put the VCR in the REC (SP) mode and record at the middle of the cassette tape. 2. Playback the recorded part, and VCR in the SLOW (SP) mode by remote control unit. 3. Press the tracking control (+) (–) buttons simultaneously to the center position. (on the display "T —:— ") 4. Turn VR353, and move the noise out of the TV screen, while watching to the screen. 5. The noise position at which noise begins to appear at the upper edge of the TV screen is A, when the tracking control is turned to the "–" end. 6. The noise position at which noise begins to appear at the lower edge of the TV screen is B, when the tracking control is turned to the "+" end. 7. Readjust VR353 so that the same level of noise A and noise B can be obtained.

No.	Item	Input	Mode	Point	Location	Remark
4	STILL V-LOCK for LP MODE	Colour bar from Colour bar generator	REC (LP) ↓ PLAY (LP) ↓ STILL (LP)	TV screen	Tracking control buttons (Front panel)	1. Put the VCR in the REC (LP) mode and record at the middle of the cassette tape. 2. Playback the recorded part, and put the VCR in the STILL (LP) mode. 3. Press the (+) or (–) tracking control buttons until V jitter (very fine movement of the vertical sync) is minimized.
5	SLOW TRACKING for LP MODE	Colour bar from Colour bar generator	REC (LP) ↓ PLAY (LP) ↓ SLOW (LP)	TV screen	VR354	 W15S008 Noise A Noise B Tracking control "–" end Tracking control "+" end 1. Put the VCR in the REC (LP) mode and record at the middle of the cassette tape. 2. Playback the recorded part, and VCR in the SLOW (LP) mode by remote control unit. 3. Press the tracking control (+) (–) buttons simultaneously to the center position. (on the display "T —:— ") 4. Turn VR354, and move the noise out of the TV screen, while watching to the screen. 5. The noise position at which noise begins to appear at the upper edge of the TV screen is A, when the tracking control is turned to the "–" end. 6. The noise position at which noise begins to appear at the lower edge of the TV screen is B, when the tracking control is turned to the "+" end. 7. Readjust VR354 so that the same level of noise A and noise B can be obtained.

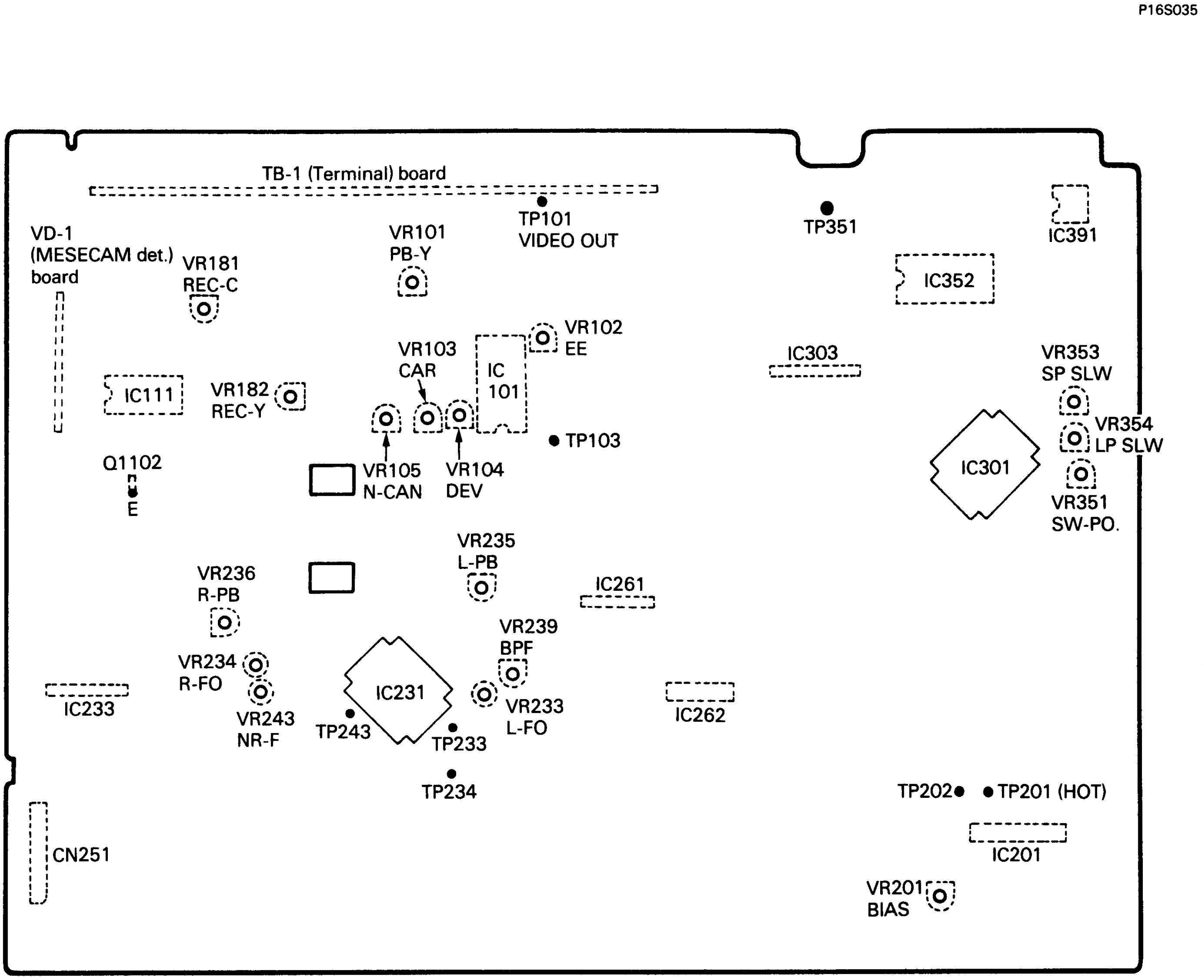
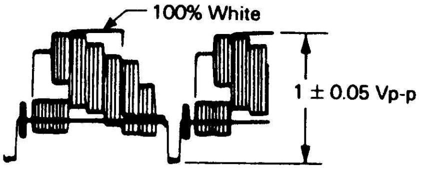
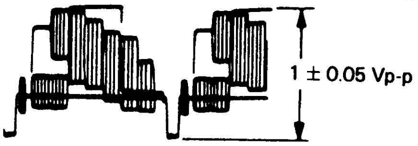
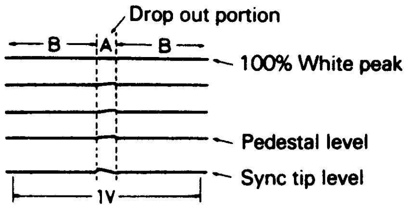
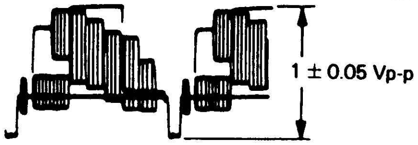
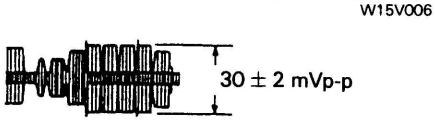
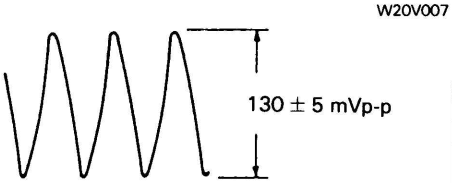

P16S035
TB-1 (Terminal) board
TP101
VIDEO OUT
TP351
IC391
VD-1
(MESECAM det.)
board
VR181
REC-C
VR101
PB-Y
IC352
VR102
EE
VR103
CAR
IC
101
IC303
VR353
SP SLW
IC111
VR182
REC-Y
VR354
LP SLW
TP103
Q1102
E
VR105
N-CAN
VR104
DEV
IC301
VR351
SW-PO.
VR235
L-PB
IC261
VR236
R-PB
VR239
BPF
VR234
R-FO
IC231
VR233
L-FO
IC262
IC233
VR243
NR-F
TP243
TP233
TP234
TP202
TP201 (HOT)
CN251
IC201
VR201
BIAS

Fig. 2-2-1 CP-1 board (Foil side view)

2-3. VIDEO CIRCUIT ADJUSTMENT ... CP-1 board and Video pre-amp unit

NOTE (1) : Use the Relay jig mentiond in the 2-1. PREPARATION to provide easy adjustment of the Pre-amp unit.
(2) : Before these adjustments place the unit in the SP mode.
(3) : When adjustment No. 1, No. 2 and No. 5 below, terminate VIDEO OUTPUT TP101 at 75 ohms.
(4) : 'No-signal REC mode' is not to supply any signal to VIDEO INPUT terminal.

No.	Item	Input	Mode	Point	Location	Remark
1	E-E LEVEL	Colour bar (100% white level) from Colour bar generator	E-E	VIDEO OUTPUT TP101 (CP-1 board)	VR102	W25V001  1. Adjust VR102 so that the level is 1.00 ± 0.05 Vp-p.
2	PB-Y LEVEL	Alignment cassette (VHJ-0008 or VHJ-0023)	PLAY	VIDEO OUTPUT TP101 (CP-1 board)	VR101	W20V003  1. Adjust VR101 so that the level is 1.00 ± 0.05 Vp-p.
3	N-CAN LEVEL	Alignment cassette (VHJ-0051)	PLAY	VIDEO OUTPUT TP101 (CP-1 board)	VR105	W30V012  Drop out portion B A B 100% White peak Pedestal level Sync tip level 1V 1. Set the horizontal scale (TIME/DIV) of the oscilloscope to 1 msec./div.. 2. Adjust VR105 so that the drop out portion "A" of white peak (100%) and other portion "B" are same level.
4	CARRIER SET	No-signal	REC	TP103 (CP-1 board)	VR103	1. Set the channel selector buttons to the AV position and put the VCR in the no-signal REC mode. 2. Adjust VR103 so that the frequency is 3.75 +0/−0.05 MHz.
5	DEVIATION	Colour bar (100% white level) from Colour bar generator	REC (Adjustment) ↓ PLAY (Check)	VIDEO OUTPUT TP101 (CP-1 board)	VR104	W20W003  1. Insert the blank tape to the VCR and record colour bar signal. 2. Playback the recorded part, and check that the level is 1.00 ± 0.05 Vp-p. 3. Repeat adjust VR104 before the record, and the playback it, if not satisfactory.

No.	Item	Input	Mode	Point	Location	Remark
6	C REC CURRENT	Colour bar from Colour bar generator	REC	TP181 (HOT) shield case (GND) (Video pre-amp unit)	VR181 (CP-1 board)	 1. Rotate VR182 so that the luminance level is minimize. 2. Adjust VR181 so that the level is 30 ± 2 mVp-p.
7	Y REC CURRENT	No-signal	REC	TP181 (HOT) shield case (GND) (Video pre-amp unit)	VR182 (CP-1 board)	 1. Set the channel selector buttons to AV position and put the VCR in the no-signal REC mode. 2. Adjust VR182 so that the level is 130 ± 5 mVp-p. 3. Follows are the applicable models and their corresponding mark.

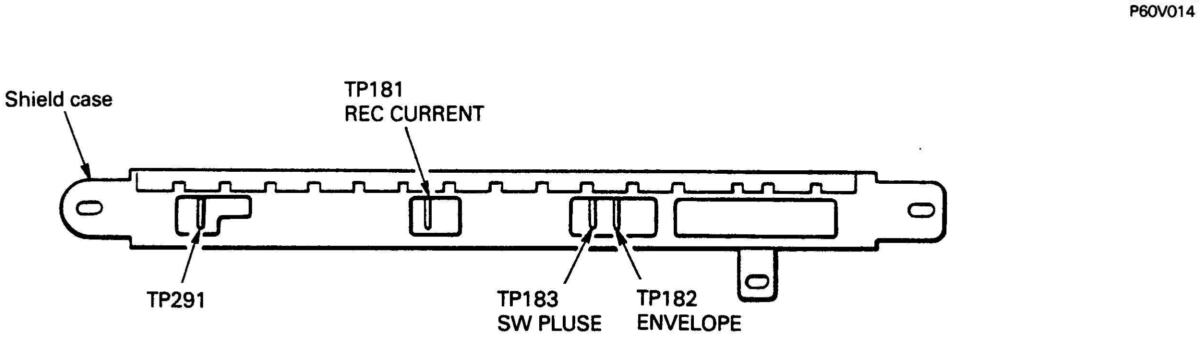

P60V014
Shield case
TP181
REC CURRENT
TP291
TP183
SW PLUSE
TP182
ENVELOPE

Fig. 2-3-1 Video pre-amp unit

2-4. AUDIO CIRCUIT ADJUSTMENT

NOTE: When repairing and adjusting the CP-1 board and AD-2 board, use the optionally supplied Relay jig (VHJ-0086) since the flexible PCB for connecting to the AD-2 board is short. Connect the Flat cable end to CN271 on the AD-2 board and other end to CN251 on the CP-1 board.

SETTING BEFORE ADJUSTMENT

- The audio input terminal of the audio signal generator should be terminated at 600 ohms.
- The audio output terminal of the VCR should be terminated at 47 killo ohms (L ch and R ch).
- 0/AV button on the remote control . . . . [AV] position.
- AUDIO output button on the remote control . . . . [L] and [R] position.
- SP/LP select button on the remote control . . . . [SP] position.
- REC LEVEL control . . . . Center (click stop) position.
- REC BALANCE control . . . . Center (click stop) position.

P16A013

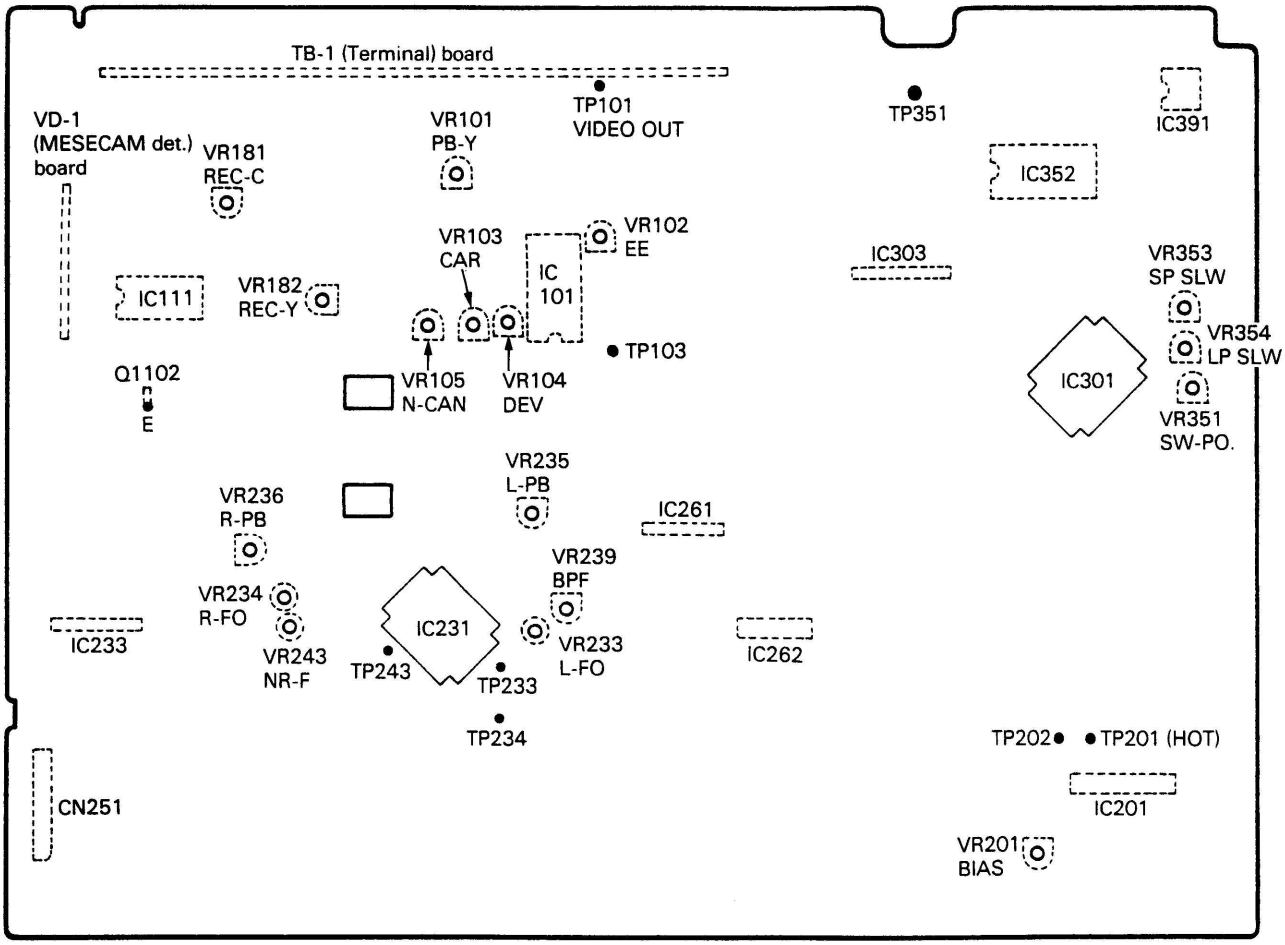
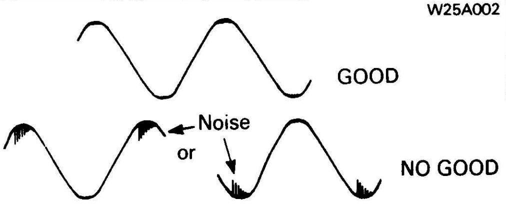

TB-1 (Terminal) board
TP101
VIDEO OUT
TP351
IC391
VD-1
(MESECAM det.)
board
VR181
REC-C
VR101
PB-Y
IC352
VR103
CAR
IC
101
VR102
EE
IC303
VR353
SP SLW
IC111
VR182
REC-Y
VR354
LP SLW
TP103
IC301
Q1102
E
VR105
N-CAN
VR104
DEV
VR351
SW-PO.
VR235
L-PB
VR236
R-PB
IC261
VR239
BPF
VR234
R-FO
IC231
VR233
L-FO
IC233
VR243
NR-F
TP243
TP233
IC262
TP234
TP202
TP201 (HOT)
CN251
IC201
VR201
BIAS

Fig. 2-4-1 CP-1 board (Foil side view)

Hi-Fi AUDIO CIRCUIT .... CP-1 board

NOTE (1): The Hi-Fi AUDIO section adjustment has separate adjustment items for the L ch and R ch.
The R ch adjustments are included in parentheses.
(2): 'No-signal record mode' is not to supply any signal to the AUDIO INPUT terminal.

No.	Item	Input	Mode	Point	Location	Remark
1	A-FM CARRIER FREQUENCY	No-signal	REC	TP233 (L ch) TP234 (R ch)	VR233 (L ch) VR234 (R ch)	1. Connect a frequency counter to TP233 (TP234) and ground. 2. Adjust VR233 (VR234) so that the carrier frequency is 1.4 MHz (1.8 MHz) +1/−6 KHz.
2	A-FM BPF	Alignment cassette (VHJ-0080)	PLAY	AUDIO OUTPUT terminals (L ch, R ch)	VR239 L ch (R ch)	 1. Connect a oscilloscope to AUDIO OUTPUT L ch (R ch) terminal. 2. Playback the alignment cassette and observe the waveform on the audio output. 3. Adjust VR239 until the noise component of both channel is minimum level.
3	A-FM NR FILTER	Audio signal (5 KHz, -17 dBm) from Audio signal generator	E-E	TP243	VR243	1. Adjust VR243 so that the output level is minimum.
4	A-FM PB LEVEL	Alignment cassette (VHJ-0020)	PLAY	AUDIO OUTPUT terminals (L ch, R ch)	VR235 (L ch) VR236 (R ch)	1. Adjust VR235 (VR236) so that the playback level is −7 ± 0.5dBm.

NORMAL AUDIO CIRCUIT ..... CP-1 board

NOTE (1): 'No-signal record mode' is not to supply any signal to the AUDIO INPUT terminal.
(2): Press the AUDIO output select button to the Mono (No indication) position.

No.	Item	Input	Mode	Point	Location	Remark
1	BIAS LEVEL	No-signal	REC	TP201 (HOT) TP202	VR201	1. Set the channel selector buttons to the AV position and put the VCR in the no-signal REC mode. 2. Adjust VR201 so that the level is 24 mVrms. 3. Confirm that the bias frequency is 70 ± 5 KHz.

2-5. LEVEL METER CIRCUIT ADJUSTMENT ... CP-1 and AD-2 board

NOTE: When repairing and adjusting the CP-1 board and AD-2 board, use the optionally supplied Relay jig (VHJ-0086) since the flexible PCB for connecting to the AD-2 board is short. Connect the Flat cable end to CN271 on the AD-2 board and other end to CN251 on the CP-1 board.

No.	Item	Input	Mode	Point	Location	Remark
1	AUDIO LEVEL METER	Audio signal (1 KHz, -7 dBm) from Audio signal generator	E-E	AUDIO OUTPUT terminals (L ch, R ch)	VR241 (L ch) VR242 (R ch) (AD-2 board)	1. Connect an audio signal generator to AUDIO INPUT terminals. 2. Connect the AC voltmeter to the AUDIO OUTPUT terminals. 3. Set the LEVEL METER switch to the "AUDIO LEVEL" position. 4. Press the "0" button on the remote control unit to the AV position. 5. Press the AUDIO output button on the remote control unit to the "Lch" and "Rch" position. 6. Set the AUDIO REC LEVEL control so that the audio output signal level is -7.0dBm. 7. Adjust VR241 and VR242 so that illuminates the -4dB LED. 8. Set the AUDIO REC LEVEL control so that the audio output signal level is -7.5dBm. 9. Adjust VR241 and VR242 so that confirm only the -4dB LED goes out.

P08A014

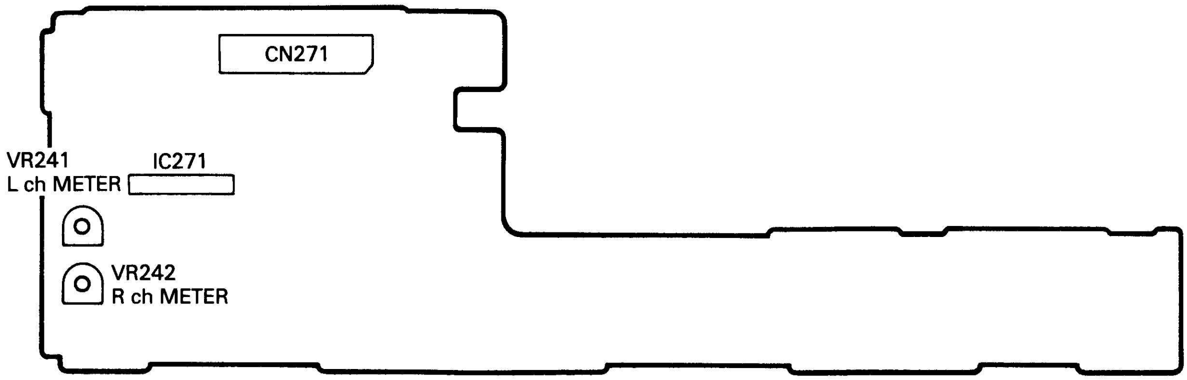


Fig. 2-5-1 AD-2 board (Parts side view)

2-6. MTS (Multiplex TV System) DECODER CIRCUIT ADJUSTMENT ... TN-3 board

No.	Item	Input	Mode	Point	Location	Remark
1	STEREO SEPARATION	Audio signal (R ch...1 KHz 100% mod. L ch...400Hz unmod.) from Audio MPX TV signal generator	E-E	AUDIO OUTPUT terminal (L ch)	VR631	1. Set the pilot signal for the stereo mode. With the L ch unmodulated, provide 1 KHz 100% modulation on the R ch. 2. Connect an oscilloscope to the audio output terminal (L ch) and adjust VR631 for minimum waveform peak-to-peak value.
2	STEREO (117.5 Hz)	TV broadcast (Stereo)	E-E	IC631 pin 5	VR632	1. Select the TV channel to stereo programme. 2. Adjust VR632 so that the waveform is maximize.
3	BILINGUL (274.1 Hz)	TV broadcast (Bilingul)	E-E	IC631 pin 6	VR633	1. Select the TV channel to bilingul programme. 2. Adjust VR633 so that the waveform is maximize.

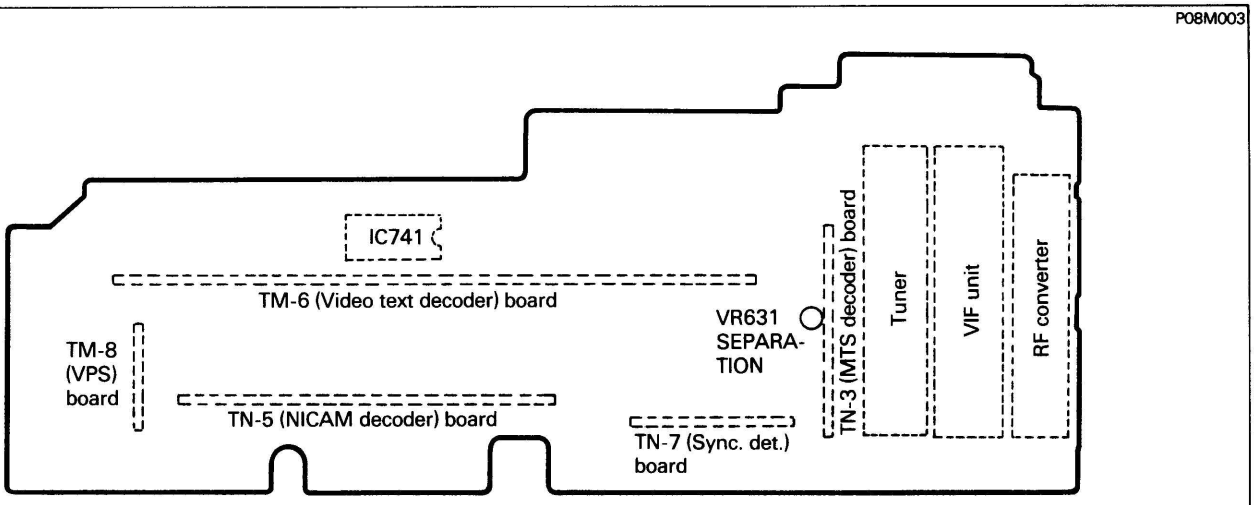

P08M003
IC741
TM-6 (Video text decoder) board
TM-8 (VPS) board
TN-5 (NICAM decoder) board
VR631 SEPARATION
TN-3 (MTS decoder) board
Tuner
VIF unit
RF converter
TN-7 (Sync. det.) board

Fig. 2-6-1 CP-2 board (Foil side view)

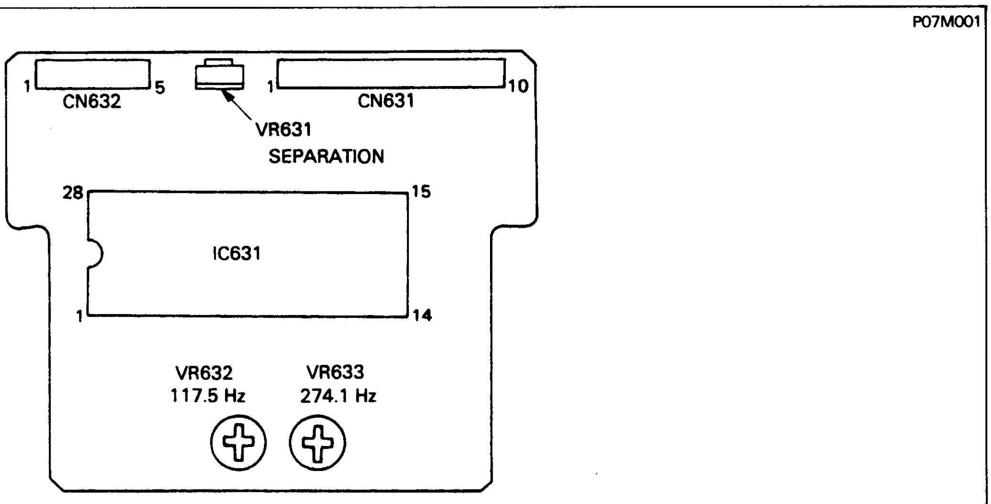

P07M001
1
CN632
5
1
CN631
10
VR631
SEPARATION
28
15
IC631
1
14
VR632
117.5 Hz
VR633
274.1 Hz

Fig. 2-6-2 TN-3 board (Parts side view)

2-7. VIDEO TEXT DECODER CIRCUIT ADJUSTMENT ... TM-6 and CP-1 board

No.	Item	Input	Mode	Point	Location	Remark
1	DECODER VXO	NONE	E-E	Emitter of Q1102 (CP-1 board) Fig. 2-2-1	CT761	1. Set the vartical scale (VOLTAGE/DIV.) of the oscilloscope to 10 mV/DIV.. 2. Connect the frequency counter to Emitter of Q1102 and ground through a pre-amp of the above oscilloscope. 3. Press the "MENU" button on the remote control unit. 4. Adjust CT761 so that the frequency is 4433619 ± 20Hz.

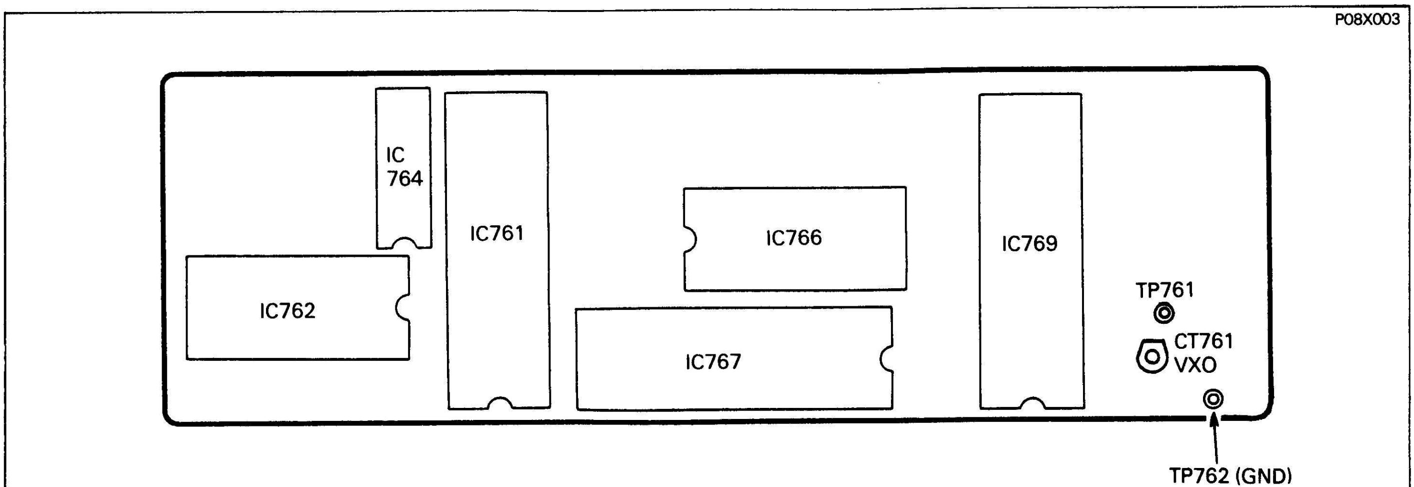

P08X003
IC 764
IC761
IC766
IC769
IC762
IC767
TP761
CT761 VXO
TP762 (GND)

Fig. 2-7-1 TM-6 board (Parts side view)

2-8. TUNER IF CIRCUIT ADJUSTMENT ... VIF unit

No.	Item	Input	Mode	Point	Location	Remark
1	RF AGC	TV broadcast	E-E	TV screen	VR611	1. Turn VR611 in the direction which causes snow to appear, then in the opposite direction until the show just disappears.

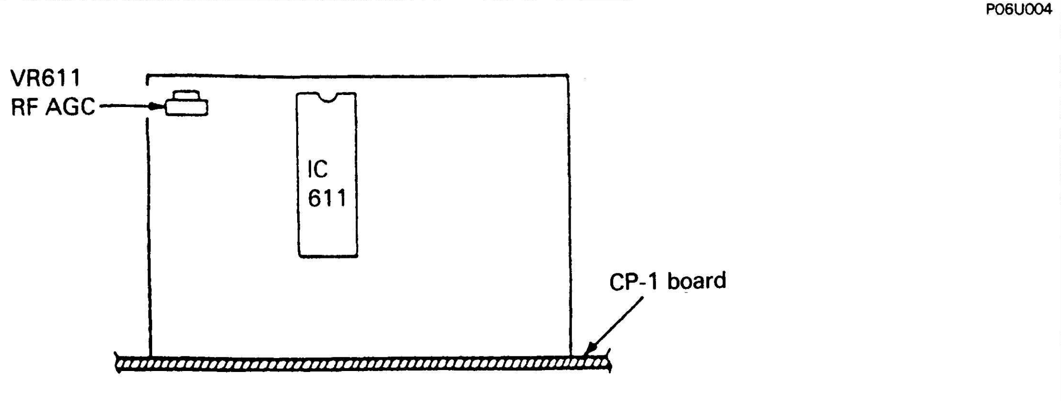

P06U004
VR611
RF AGC
IC 611
CP-1 board

Fig. 2-8-1 VIF unit (Parts side view)

3. DISASSEMBLY PROCEDURES

3-1. REMOVAL OF REMOTE CONTROL UNIT CASE

Open the remote control unit case as follows. Although a large type remote control unit is shown in the figure bellow, small type remote control unit can be opened by the same procedures.

NOTE: When opening the remote control unit for repairing, use a GUITER PICK made of plastic (1mm thickness) shown in the Fig. 3-1-2 or the like (a thin plastic piece) to prevent scratching.

*** Never use a metal screwdriver to avoid scrathing.**

1. Open the battery cover and take out batteries, the then remove the bottom case fixing screw.
2. Applying force strongly to the battery compartment edge in the arrow **(A)** direction by your thumb as shown in Fig. 3-1-1 to make a space **(B)** between the bottom and upper case as shown in the cross section Fig. 3-1-3.
   To make this procedure easier, push the remote control unit end **(C)** against your body.
3. Insert the GUITER PICK above mentioned into the space **(B)** as shown in Figs. 3-1-3, 3-1-4 and move the PICK in the arrow **(D)** and **(E)** direction, then disconnect two hooks **(F)** of the top of the cases.
4. Applying force to the space **(B)** and battery compartment edge by your thumb so that the bottom case is separated from the upper case as shown in the Fig. 3-1-5.
5. Insert the PICK into the space **(G)** of the case side slantingly by against the bottom case and move the PICK to disconnect the hooks **(H)** of the side in order from top to bottom.
6. Disconnect the hooks of the other side using the pick by the same procedure as step 4.

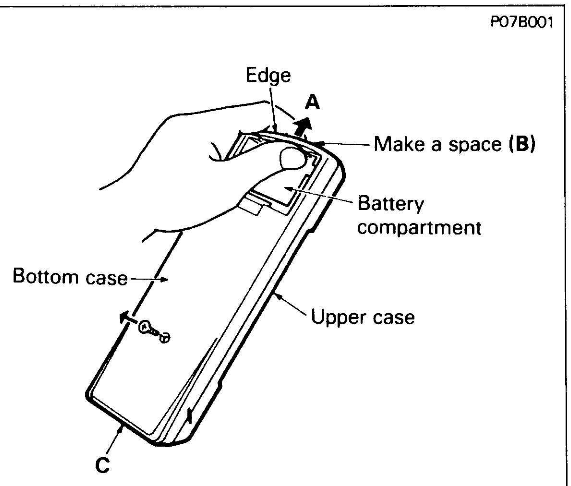

P07B001
Edge
A
Make a space (B)
Battery compartment
Bottom case
Upper case
C

Fig. 3-1-1

P07B002
GUITER PICK or
Thin plastic piece

Fig. .3-1-2

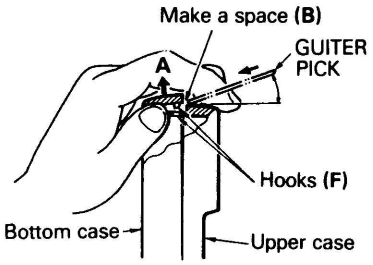

Make a space (B)
A
GUITER
PICK
Hooks (F)
Bottom case
Upper case

Fig. 3-1-3

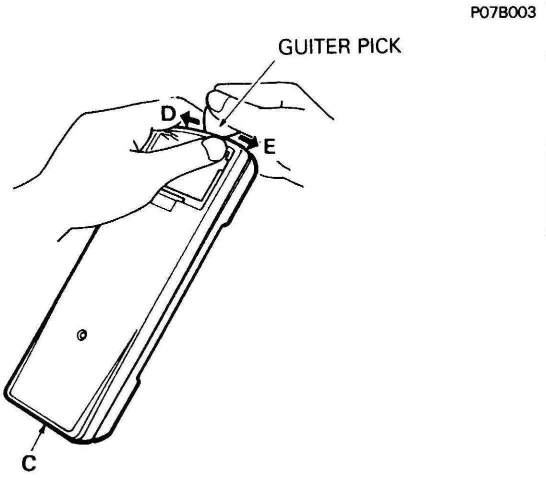

P07B003
GUITER PICK
D
E
C

Fig. 3-1-4

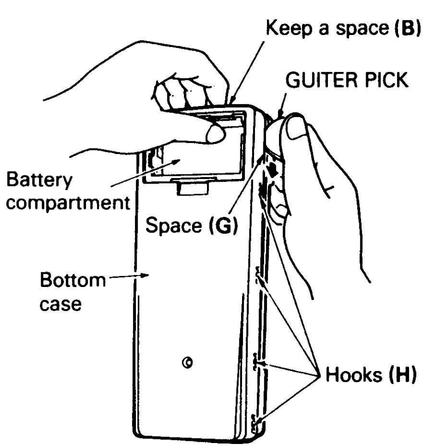

P07B004
Keep a space (B)
GUITER PICK
Battery compartment
Space (G)
Bottom case
Hooks (H)

Fig. 3-1-5

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OSAKA, JAPAN

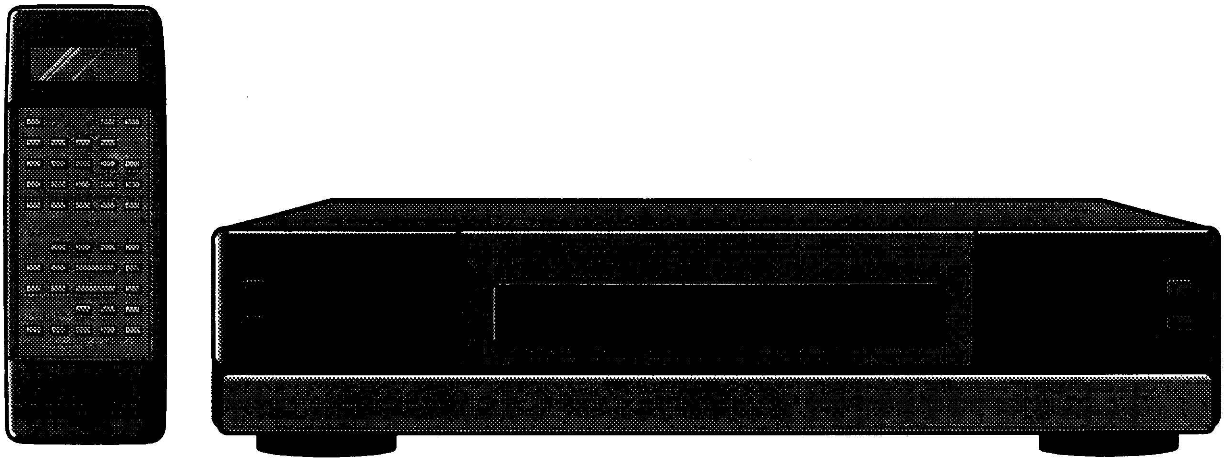
May/'91/5870 HA Printed in Japan

SANYO

Parts List & Circuit Diagrams

Video Cassette Recorder

VHR-190E (U.K.)



VHS PAL HQ

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Circuit Diagram

Please see other materials with Reference No. given in table below.

Materials	Model No.	Reference No.
Service Manual	VHR-190 Series	WM-530870
Mechanism Manual	P90 Mechanism	WM-530599
	P91 Mechanism	WM-530829

PRODUCT SAFETY NOTICE

The components designated by a symbol (⚠) in this schematic diagram designates components whose value are of special significance to product safety. Should any component designated by a symbol need to be replaced, use only the part designated in the Parts List Do not deviate from the resistance, wattage and voltage ratings shown.

NOTE: 1. Parts order must contain Model Number, Part Number and Description.
2. N.S.P.: Not available as service parts.

VP4H-/E-C1F 143 811 67

REFERENCE No. WM-530871

ACCESSORIES

LOCATION	PARTS NO.	DESCRIPTION
	613 124 3125	REMOCON
	613 127 5164	INSTRUCTION MANUAL
	613 124 3668	CAUTION SHEET,DEW
	613 096 6773	CABLE,ANT
OR	613 011 7359	CABLE,ANT
	613 123 0781	CORD,POWER

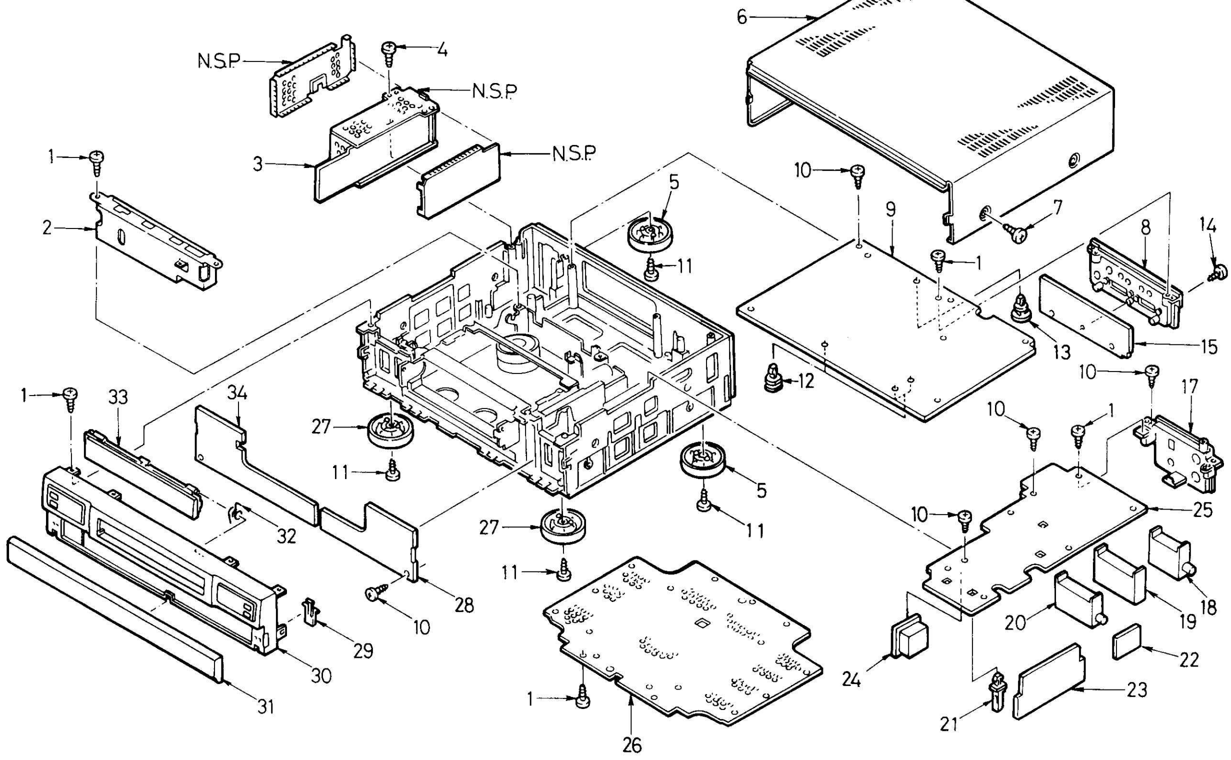
PACKING MATERIALS

LOCATION	PARTS NO.	DESCRIPTION
	613 127 5126	CORR CASE,INNER
	613 123 7414	CUSHION,INNER,FRONT
	613 123 7421	CUSHION,INNER,BACK
	613 095 0765	POLYE COVER,INNER
	613 107 8970	BAR CODE LABEL

CABINET & CHASSIS PARTS

LOCATION	PARTS NO.	DESCRIPTION
1	411 137 0007	SCR L-TPG BIN 3X10
2	613 123 6110	COMPL PCB,VP-1
3	613 123 0552	COMPL PCB,PW-1
4	411 021 7907	SCR S-TPG BIN 4X12
5	613 129 8699	STAND,BACK
6	613 125 9416	COVER,TOP
7	412 028 9406	SPECIAL SCREW
8	613 122 0027	TERMINAL,PAL
9	613 123 6479	COMPL PCB,CP-A
10	411 021 3800	SCR S-TPG BIN 3X10
11	411 137 0007	SCR L-TPG BIN 3X10
OR	411 021 4005	SCR S-TPG BIN 3X12
12	613 053 8055	FIXER
13	613 126 6629	HOLDER
14	411 021 3701	SCR S-TPG BIN 3X10
15	613 123 5243	COMPL PCB,TB-1
17	613 122 0034	TERMINAL,RF
18	613 110 3665	MODULATOR,RF
18	613 120 5642	MODULATOR,RF
19	613 103 2736	IF PACK
20	613 103 2729	TUNER PACK
21	613 082 5223	HOLDER
22	613 127 8042	COMPL PCB,TN-7
23	613 123 0866	COMPL PCB,TN-5
24	613 120 7660	COMPL PCB,TM-5
25	613 127 5249	COMPL PCB,CP-B
26	613 122 0010	COVER,BOTTOM
27	613 123 1245	STAND,FRONT
28	613 123 8305	COMPL PCB,TM-1
29	613 048 2884	LOCK
30	613 124 1572	ASSY,CABINET,FRONT
31	613 127 4990	ASSY,DOOR
32	613 083 6441	SPRING,DR CASSE-HCD
33	613 122 8542	DOOR,CASSETTE
34	613 123 6097	COMPL PCB,AD-2

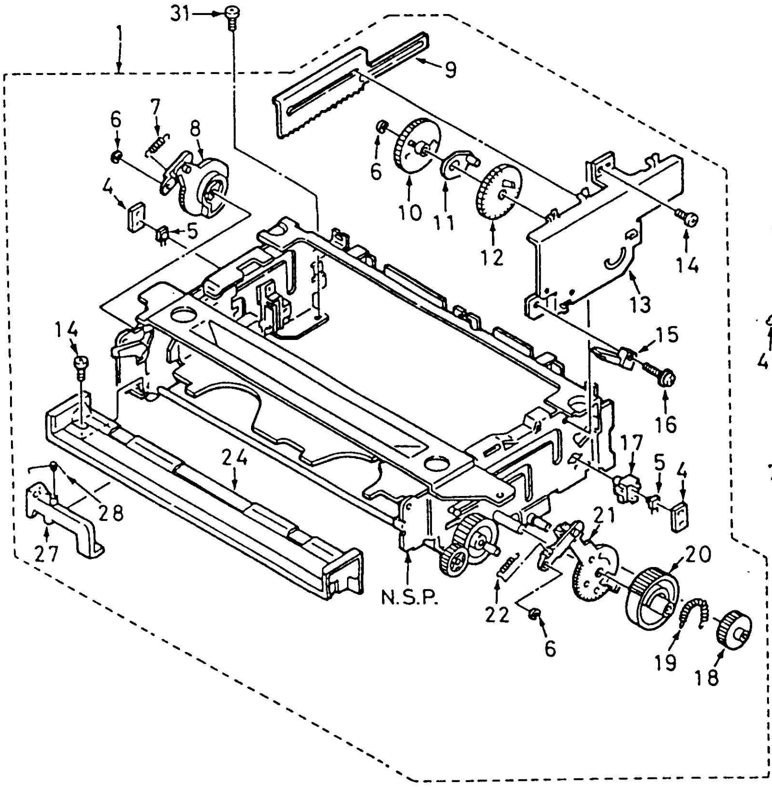
N.S.P: Not available as service parts



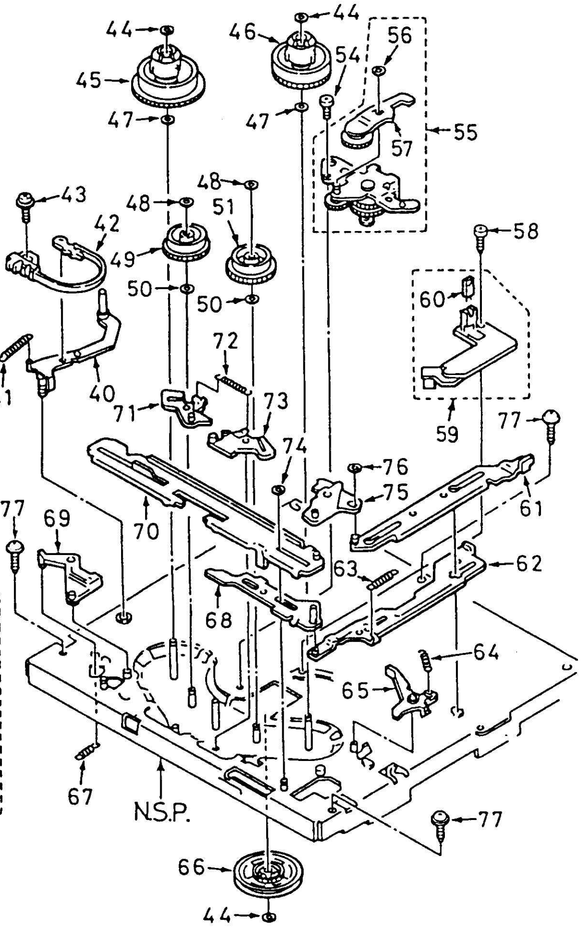
MECHANISM PARTS 1

LOCATION	PARTS NO.	DESCRIPTION
1	613 125 4879	COMPL,CASSETTE MECHA
4	613 022 0585	LID
5	407 098 3201	PHOTO COUPLE PN150SAN
6	411 015 9801	RING E 2.3
7	613 022 1643	SPRING,LINK L
8	613 022 0073	ASSY,GEAR,LEVER L
9	613 022 2695	RACK
10	613 022 2633	GEAR,LOCK
11	613 021 9916	ASSY,LEVER,PINION
12	613 022 2626	GEAR,PINION
13	613 021 9657	ASSY,BRACKET,GEAR
14	411 027 1305	SCR S-TPG BIN 2.6×4
15	613 006 4479	SPECIAL SWITCH
OR	613 095 0949	SPECIAL SWITCH
16	411 106 9208	SCR PAN+SW+W 2×9
17	613 022 0943	HOLDER,TRANSISTOR
18	613 022 2619	GEAR,IDLER
19	613 022 1667	SPRING,GEAR MAIN
20	613 022 2596	GEAR,MAIN
21	613 022 0097	ASSY,GEAR,LEVER R
22	613 022 1674	SPRING,LINK R
24	613 108 0256	BOARD,UNDER
27	613 124 5006	LEVER,SAFETY SWITCH
28	613 125 6149	SPRING,SAFETY SWITCH
31	411 001 8702	SCR BIN 3×6
40	613 100 0391	ASSY,LEVER,TENSION
41	613 085 7996	SPRING,LEVER TENSION
42	613 021 9701	ASSY,HOLDER,BAND
43	411 144 2803	SCR PAN+SW+W 2.6×6
OR	411 036 2805	SCR PAN+SW+W 2.6×6
44	411 109 1605	WASHER Y 2.6×6×0.25
45	613 078 8375	ASSY,REEL,SUPPLY
46	613 022 0110	ASSY,REEL,TAKE UP

LOCATION	PARTS NO.	DESCRIPTION
47	412 021 5306	SPECIAL WASHER 3.1×6×0.3
OR	412 015 8900	SPECIAL WASHER 3.1×6×0.4
OR	412 015 8504	SPECIAL WASHER 3.1×6×0.5
48	411 109 1506	WASHER Y 2.1×6×0.25
OR	411 109 1407	WASHER Y 2.1×5×0.25
49	613 126 6148	GEAR,REEL SUPPLY
50	412 026 7305	SPECIAL WASHER 2.6×6×0.25
51	613 126 6155	GEAR,REEL TAKE UP
54	412 042 4302	SPECIAL SCREW 2.6×4
55	613 085 7101	COMPL,IDLER,CLUTCH
56	411 120 1301	WASHER Y 2.1×4×0.25
57	613 022 0134	ASSY,IDLER
58	411 021 3107	SCR S-TPG BIN 2.6×8
59	613 120 9053	COMPL,PCB,MC-4
60	407 016 7205	LED LN59
61	613 021 9985	ASSY,SLIDE,ACT PLATE
62	613 021 9992	ASSY,SLIDE,C BRAKE
63	613 022 1612	SPRING,RETURN SLIDE
64	613 022 1506	SPRING,SUB T
65	613 098 0106	ASSY,BRAKE,SUB T
66	613 077 3647	PULLEY,REEL
67	613 022 1490	SPRING,SUB SUPPLY
68	613 022 2374	SLIDE,ACT BRAKE
69	613 084 8871	BRAKE,SUB SUPPLY
70	613 022 0004	ASSY,SLIDE,M PLATE
71	613 080 9216	ASSY,BRAKE,SUPPLY
72	613 086 2914	SPRING,MAIN BRAKE
73	613 080 9209	ASSY,BRAKE,TAKE UP
74	411 109 3005	WASHER Y 2.6×5×0.5
75	613 022 2015	LEVER,CONT PLATE
76	412 015 9501	SPECIAL WASHER
77	411 021 7907	SCR S-TPG BIN 4×12

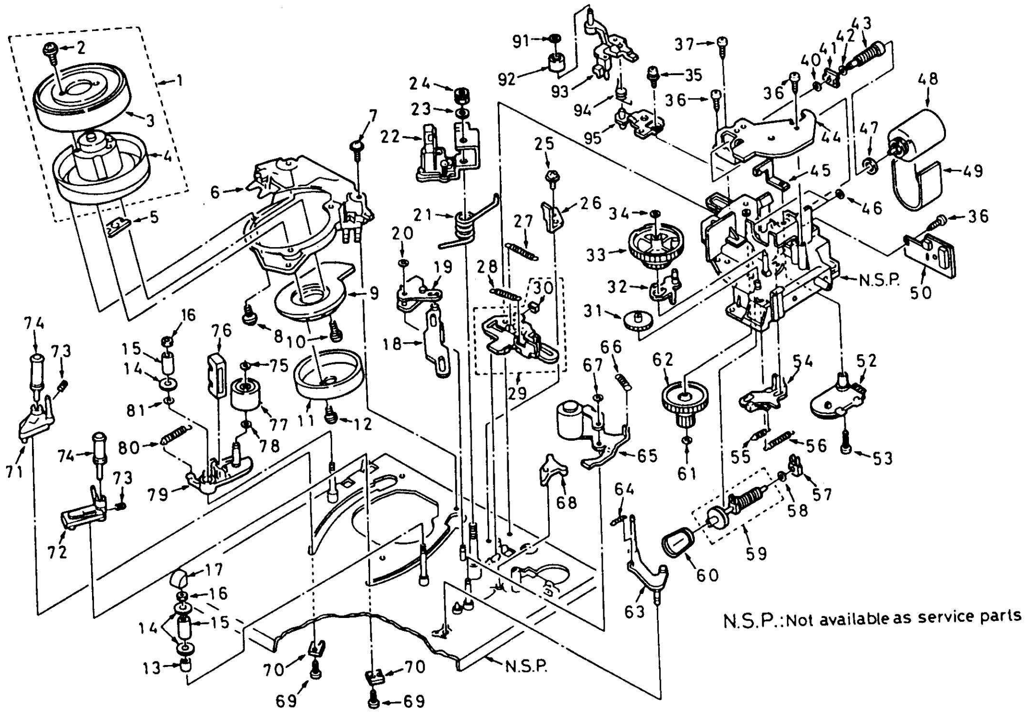


N.S.P.: Not available as service parts



MECHANISM PARTS 2

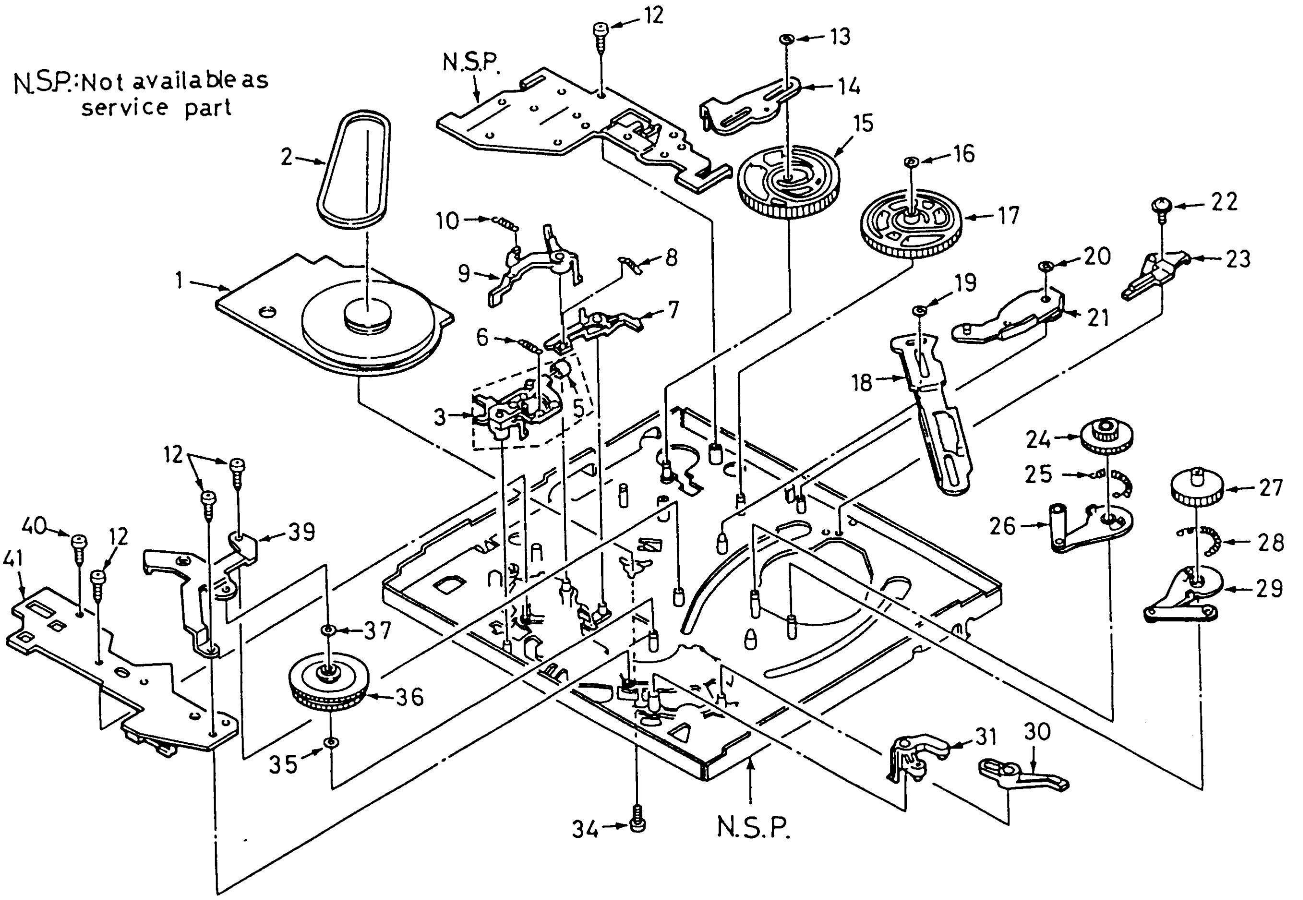
LOCATION	PARTS NO.	DESCRIPTION
1	613 097 5355	COMPL,CYLINDER,4H6P-R
2	411 038 1608	SCR PAN+W 3×8
3	613 097 5362	ASSY,CYLINDER,UPR 4H6P-R
4	613 095 9881	ASSY,CYLINDER,LWR 6K
5	613 107 0509	SPACER,MOTOR,0.5T
6	613 088 9072	BASE,CYLINDER
7	411 047 7509	SCR PAN+FLG 3×6
8	411 047 5000	SCR PAN+FLG 2.6×8
9	613 085 7279	STATOR,MOTOR CYLINDER
10	411 044 9209	SCR PAN+SW 2.3×8
OR	411 044 8301	SCR PAN+SW 2.3×10
11	613 022 4019	ROTOR,MOTOR CYLINDER
12	411 044 9001	SCR PAN+SW 2.3×6
13	613 123 4802	SLEEVE
14	613 053 3227	SPECIAL WASHER
15	613 123 4970	TAPE GUIDE
16	412 026 2607	SPECIAL NUT (M3)
17	613 123 9418	CAP
18	613 021 9961	ASSY,SLIDE,ACT PINCH
19	613 021 9800	ASSY,LEVER,CAM PINCH
20	411 109 2008	WASHER Y 3.1×8×0.5
21	613 022 1797	SPRING,ACE HEAD
22	613 021 9640	COMPL,BRACKET,HEAD
23	613 110 1692	SLEEVE,AC HEAD
24	412 015 8207	SPECIAL NUT (M5)
25	411 120 0007	SCR PAN+SW+W 2.6×5
26	613 120 3631	BRACKET,STOPPER
27	613 022 1575	SPRING,LINK LOCK
28	613 022 1582	SPRING,SLIDE BRAKE
29	613 094 9233	ASSY,SLIDE,CAM
30	613 022 2725	DAMPER
31	613 022 2534	GEAR,FRONT LOAD
32	613 094 1206	ASSY,LEVER,FRONT
33	613 077 3586	GEAR,HELICAL FRONT
34	613 027 0504	WASHER 4.1×6.5×0.5
35	411 046 8002	SCR PAN+SW+W 2.6×6
36	411 023 2801	SCR S-TPG PAN 2.6×6
37	411 023 3303	SCR S-TPG PAN 2.6×8
OR	411 021 3107	SCR S-TPG BIN 2.6×8
40	613 053 2381	SPECIAL WASHER
41	613 077 3227	HOLDER,WORM
42	613 027 0382	WASHER
43	613 078 8320	ASSY,WORM,FRONT
44	613 117 0599	BRACKET,HOLDER
45	613 093 9159	PLATE,NUT
46	613 093 8374	DAMPER,MOTOR
47	613 077 3616	DAMPER,WORM
48	613 121 9960	ASSY,LOADING MOTOR
49	613 092 9945	DAMPER,MOTOR
50	613 109 6462	COMPL,PCB,MC-3
52	613 110 0374	ROTARY SWITCH
53	411 126 5303	SCR PAN 2.6×13
54	613 092 9921	ASSY,SLIDE,FRONT
55	613 092 5985	SPRING,LEVER LOAD
56	613 092 5992	SPRING,LEVER ACT
57	613 092 5886	HOLDER,WORM
58	613 027 0627	WASHER 2.1×6×0.5
59	613 092 9938	ASSY,WORM,LOAD
60	613 022 2985	BELT,LOADING
61	412 033 4106	WASHER SLIT 2.6×5×0.5
62	613 077 3579	GEAR,HELICAL
63	613 102 9293	ASSY,LEVER,REV GUIDE
64	613 022 1568	SPRING,REVIEW LEVER
65	613 022 0158	COMPL,PINCH ROLLER
66	613 022 1483	SPRING,PINCH ROLLER
67	411 109 2107	WASHER Y 3.6×6×0.5
68	613 078 8160	COMPL,LEVER,ACT BRAKE
69	411 031 1209	SCR BIN 2.6×5
70	613 022 1919	PLATE,GUIDE
71	613 021 9725	ASSY,BASE,ROLLER S
72	613 021 9732	ASSY,BASE,ROLLER T
73	411 063 0904	SCR SET HEX-SCT 2×3
74	613 022 0233	ASSY,GUIDE,ROLLER
75	411 109 2602	WASHER Y 1.5×4×0.25
76	613 022 4224	HEAD,FULL ERASE
77	613 022 2817	IMPEDANCE ROLLER
78	412 032 5807	SPECIAL WASHER 2.1×5×0.13
79	613 093 8305	ASSY,LEVER,FE HEAD
80	613 022 1698	SPRING,ERASE HEAD
81	411 109 1704	WASHER Y 6.4×10×0.25
90	613 120 5703	FLEXIBLE FLAT CABLE 24
91	411 109 1803	WASHER Y 2.6×6×0.5
92	613 119 8562	ASSY,ROLLER,CLEANER
93	613 119 8548	ASSY,LEVER,CLEANER
94	613 119 8593	SPRING
95	613 119 8524	ASSY,BRACKET,CLEANER



N.S.P.:Not available as service parts

MECHANISM PARTS 3

LOCATION	PARTS NO.	DESCRIPTION
1	613 022 4491	MOTOR,CAPSTAN
2	613 022 2978	BELT,REEL DRIVE
3	613 021 9848	ASSY,LEVER,CLUTCH
5	613 079 1023	DAMPER,LEVER CLUTCH
6	613 022 1520	SPRING,LEVER CLUTCH
7	613 082 3434	LEVER,CHANGE CLUTCH
8	613 022 1711	SPRING,CHANGE CLUTCH
9	613 081 7518	ASSY,BRAKE CAPSTAN
10	613 098 2285	SPRING,CAPSTAN
12	411 021 3107	SCR S-TPG BIN 2.6×8
13	411 109 2008	WASHER Y 3.1×8×0.5
14	613 021 9978	ASSY,SLIDE,CAM PLATE
15	613 022 2701	CAM,MODE
16	411 109 1902	WASHER Y 3.1×6×0.5
17	613 120 1576	CAM,MAIN
18	613 022 2664	RACK,LOAD
19	411 109 1803	WASHER Y 2.6×6×0.5
20	411 109 2107	WASHER Y 3.6×6×0.5
OR	411 109 2206	WASHER Y 3.6×8×0.5
21	613 021 9794	ASSY,LEVER,CAM LOAD
22	411 047 6809	SCR PAN+FLG 3×4
23	613 021 9763	ASSY,EARTH,CYLINDER
24	613 090 6380	GEAR,LOAD TAKE UP
25	613 022 1551	SPRING,GEAR LOAD T
26	613 021 9879	ASSY,LEVER,LOAD T
27	613 090 6373	GEAR,LOAD SUPPLY
28	613 022 1704	SPRING,GEAR LOAD S
29	613 021 9862	ASSY,LEVER,LOAD S
30	613 022 2039	LEVER,RETURN TENSION
31	613 091 3104	ASSY,LEVER CONTROL
34	411 040 2303	SCR PAN 2.6×5
35	412 015 8603	SPECIAL WASHER 3.1×6×0.25
36	613 102 0900	ASSY,GEAR FRICTION
37	411 109 1605	WASHER Y 2.6×6×0.25
39	613 079 8121	BRACKET,PULLEY
40	411 100 0300	SCR S-TPG BIN 2.6×5
41	613 123 9067	COMPL,PCB,MC-1
R1	401 026 0607	CARBON 270 JA 1/6W
OR	401 017 0708	CARBON 270 JA 1/4W
R2	401 024 6700	CARBON 100 JA 1/6W
OR	401 012 4404	CARBON 100 JA 1/4W
R3	401 026 0607	CARBON 270 JA 1/6W
OR	401 017 0708	CARBON 270 JA 1/4W
D1	407 094 1300	PHOTO COUPLE SPI-315-04-C
OR	407 043 0101	PHOTO DIODE ON2170-R
D2	407 094 1300	PHOTO COUPLE SPI-315-04-C
OR	407 043 0101	PHOTO DIODE ON2170-R
SW1	613 022 4545	SPECIAL SWITCH,EP



ELECTRICAL PARTS

NOTE;

*Materials of Capacitors and Resistors are abbreviated as follows;

Resistors	
MT-FILE	Metal Film Resistor
MT-GLAZE	Metal Glaze Resistor
OXIDE-MT	Oxide Metal Film Resistor
Capacitors	
MT-POLYEST	Metallized Polyester Capacitor
MT-COMPO	Metallized Composite Capacitor
TA-SOLID	Tantalum Solid Capacitor
AL-SOLID	Aluminum Solid Capacitor
NP-ELECT	Non-Polarized Electrolytic Capacitor
OS-SOLID	Aluminum Solid Capacitors with Organic Semiconductive Electrolytic Capacitor
DL-ELECT	Double Layered Electrolytic Capacitor

*Tolerance of Capacitor(10pF over) and Resistor are noted with follow symboles.

F ············ ±1% G ············ ±2% J ············ ±5% K ············ ±10%
M ············ ±20% N ············ ±30% Z ············ +80% ~ −20%

*N.S.P. : Not available as service parts.

LOCATION	PARTS NO.	DESCRIPTION
COMPL PCB,CP-A		
COMPL.NO.	613 123 6479	
VIDEO CIRCUIT(VD-A)		
C1001	403 025 7304	CERAMIC 4.7P K 50V
C1002	403 073 2702	CERAMIC 390P J 50V
C1003	403 026 2209	CERAMIC 47P J 50V
C1004	403 179 4501	NP-ELECT 0.47U M 50V
C1005	403 150 1703	CERAMIC 91P J 50V
C1006	403 071 1509	CERAMIC 180P J 50V
C1007	403 075 4001	CERAMIC 820P J 50V
C1008	403 134 4706	NP-ELECT 2.2U M 50V
C1009	403 001 1906	CERAMIC 0.01U M 16V
C1010	403 121 3408	ELECT 2.2U M 50V
C1011	403 130 2904	ELECT 0.47U M 50V
C1012	403 075 3103	CERAMIC 82P J 50V
C1013	403 068 8801	CERAMIC 100P J 50V
C1014	403 063 2200	POLYESTER 0.068U K 50V
C1015	403 001 1906	CERAMIC 0.01U M 16V
C1016	403 001 1906	CERAMIC 0.01U M 16V
C1017	403 001 1906	CERAMIC 0.01U M 16V
C1018	403 135 4002	ELECT 47U M 6.3V
C1019	403 121 3408	ELECT 2.2U M 50V
C1020	403 107 9905	ELECT 10U M 16V
C1021	403 121 3408	ELECT 2.2U M 50V
C1023	403 001 1906	CERAMIC 0.01U M 16V
C1024	403 139 1205	ELECT 22U M 10V
C1025	403 130 2904	ELECT 0.47U M 50V
C1031	403 001 1906	CERAMIC 0.01U M 16V
C1032	403 135 5009	ELECT 47U M 10V
C1033	403 139 2707	ELECT 1U M 50V
C1034	403 026 2209	CERAMIC 47P J 50V
C1035	403 025 7304	CERAMIC 4.7P K 50V
C1036	403 026 2209	CERAMIC 47P J 50V
C1037	403 121 3002	ELECT 4.7U M 25V
C1038	403 001 1906	CERAMIC 0.01U M 16V
C1039	403 001 1906	CERAMIC 0.01U M 16V
C1040	403 073 6205	CERAMIC 470P J 50V
C1081	403 028 3402	CERAMIC 56P J 50V
C1082	403 026 2209	CERAMIC 47P J 50V
C1083	403 072 7500	CERAMIC 330P J 50V
C1084	403 073 2702	CERAMIC 390P J 50V
C1085	403 028 3402	CERAMIC 56P J 50V
C1101	403 214 0703	CERAMIC 0.022U J 16V
C1102	403 001 1906	CERAMIC 0.01U M 16V
C1103	403 109 6308	ELECT 1U M 50V
C1104	403 001 1906	CERAMIC 0.01U M 16V
C1105	403 109 6308	ELECT 1U M 50V
C1106	403 109 6308	ELECT 1U M 50V
C1107	403 003 3700	CERAMIC 0.022U Z 25V
C1108	403 214 1106	CERAMIC 0.047U J 16V
C1109	403 001 1906	CERAMIC 0.01U M 16V
C1112	403 139 2707	ELECT 1U M 50V
C1113	403 214 1106	CERAMIC 0.047U J 16V
C1114	403 025 8608	CERAMIC 43P J 50V
C1115	403 150 1703	CERAMIC 91P J 50V
C1116	403 001 1906	CERAMIC 0.01U M 16V
C1117	403 135 4002	ELECT 47U M 6.3V
C1118	403 068 8801	CERAMIC 100P J 50V
C1119	403 001 1906	CERAMIC 0.01U M 16V
C1121	403 001 1906	CERAMIC 0.01U M 16V
C1124	403 121 0100	CERAMIC 0.082U J 16V
OR	403 214 1403	CERAMIC 0.082U J 16V
C1125	403 070 3702	CERAMIC 120P J 50V
C1126	403 001 1906	CERAMIC 0.01U M 16V
C1131	403 075 3103	CERAMIC 82P J 50V
C1271	403 001 1906	CERAMIC 0.01U M 16V
C1272	403 001 1906	CERAMIC 0.01U M 16V
C1292	403 115 0901	CERAMIC 560P J 50V
C1301	403 003 3700	CERAMIC 0.022U Z 25V
C1351	403 014 2600	CERAMIC 18P J 50V
C1352	403 014 2600	CERAMIC 18P J 50V
C1601	403 139 1502	ELECT 10U M 16V
C1602	403 107 9905	ELECT 10U M 16V
C1603	403 154 3307	OS-SOLID 4.7U M 10V
C1605	403 135 4101	ELECT 470U M 6.3V
C1608	403 162 1807	ELECT 22U M 10V
C1609	403 093 9606	OS-SOLID 1U M 16V
C1631	403 022 7703	CERAMIC 33P J 50V
C1632	403 022 7703	CERAMIC 33P J 50V
D1001	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1002	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1005	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1031	407 070 8408	ZENER DIODE GZS9.1Y-TB
OR	407 053 8906	ZENER DIODE MTZ9.1C-T-77
D1301	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1302	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1303	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1304	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1601	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77

LOCATION	PARTS NO.	DESCRIPTION
D1603	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D1604	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1611	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1612	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1651	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
DL131	613 116 7001	DELAY,2H
OR	613 117 4870	DELAY,2H
IC101	409 178 3309	IC LA7340
IC102	409 171 9209	IC LC8992
IC111	409 208 7208	IC LA7332
IC161	409 003 4501	IC BA7021
OR	409 120 3401	IC LA7221
L1001	613 014 0951	COIL,INDUCTOR 68UHK
OR	613 014 4478	HF CHOKE 68UH K
L1031	613 014 0968	COIL,INDUCTOR 82UHK
OR	613 014 4485	HF CHOKE 82UH K
L1032	613 014 0739	COIL,INDUCTOR 1.0UHM
OR	613 014 4256	HF CHOKE 1.0UH K
L1081	613 014 0838	COIL,INDUCTOR 6.8UHK
OR	613 014 4355	HF CHOKE 6.8UH K
L1082	613 014 0890	COIL,INDUCTOR 22UHK
OR	613 014 4416	HF CHOKE 22UH K
L1083	613 014 0951	COIL,INDUCTOR 68UHK
OR	613 014 4478	HF CHOKE 68UH K
L1084	613 014 0968	COIL,INDUCTOR 82UHK
OR	613 014 4485	HF CHOKE 82UH K
L1101	613 014 0883	COIL,INDUCTOR 18UHK
OR	613 014 4409	HF CHOKE 18UH K
L1102	613 014 0791	COIL,INDUCTOR 3.3UHK
OR	613 014 4317	HF CHOKE 3.3UH K
L1103	613 014 0876	COIL,INDUCTOR 15UHK
OR	613 014 4393	HF CHOKE 15UH K
L1104	613 014 1019	COIL,INDUCTOR 220UHK
OR	613 014 4539	HF CHOKE 220UH K
L1105	613 014 0906	COIL,INDUCTOR 27UHK
OR	613 014 4423	HF CHOKE 27UH K
L1631	613 014 0944	COIL,INDUCTOR 56UHK
OR	613 014 4461	HF CHOKE 56UH K
Q1001	405 093 0508	TR KSA1175-Y
OR	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
Q1002	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1003	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1004	405 063 9708	TR DTC144EL-TL2
Q1031	405 093 0508	TR KSA1175-Y
OR	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
Q1032	405 057 6201	TR 2SC4038-Q-TL2

LOCATION	PARTS NO.	DESCRIPTION
Q1032	405 057 6409	TR 2SC4038-R-TL2
Q1051	405 093 0508	TR KSA1175-Y
OR	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
Q1101	405 093 0508	TR KSA1175-Y
OR	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
Q1102	405 057 6201	TR 2SC4038-Q-TL2
OR	405 057 6409	TR 2SC4038-R-TL2
Q1103	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1104	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1105	405 057 6201	TR 2SC4038-Q-TL2
OR	405 057 6409	TR 2SC4038-R-TL2
Q1106	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1151	405 093 0508	TR KSA1175-Y
OR	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
Q1301	405 064 0100	TR 2SA1561-TL2-Q
OR	405 064 0209	TR 2SA1561-TL2-R
Q1302	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1351	405 063 9104	TR DTA144EL-TL2
Q1381	405 063 9708	TR DTC144EL-TL2
Q1382	405 063 9708	TR DTC144EL-TL2
Q1391	405 063 9708	TR DTC144EL-TL2
Q1401	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1402	405 006 6702	TR 2SA984-F-AA
OR	405 006 6504	TR 2SA984-E-AA
OR	405 086 4506	TR KSA643C-Y
Q1403	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1404	405 089 0109	TR 2SA1707-T-AN
OR	405 084 7905	TR 2SB1240-TV2-R
Q1601	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1806	TR 2SA933S-T93-R
Q1602	405 064 0100	TR 2SA1561-TL2-Q
OR	405 064 0209	TR 2SA1561-TL2-R
Q1611	405 064 0100	TR 2SA1561-TL2-Q
OR	405 064 0209	TR 2SA1561-TL2-R
Q1612	405 063 9708	TR DTC144EL-TL2
Q1621	405 093 0508	TR KSA1175-Y

LOCATION	PARTS NO.	DESCRIPTION
Q1621	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
Q1631	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 093 0607	TR KSC2785-Y
R1001	401 022 3008	CARBON 6.8K JA 1/4W
R1002	401 017 1705	CARBON 2.7K JA 1/4W
R1003	401 022 1806	CARBON 680 JA 1/4W
R1004	401 012 9201	CARBON 1M JA 1/4W
R1005	401 012 5609	CARBON 1K JA 1/4W
R1006	401 017 1705	CARBON 2.7K JA 1/4W
R1007	401 012 5609	CARBON 1K JA 1/4W
R1008	401 022 1806	CARBON 680 JA 1/4W
R1009	401 012 5609	CARBON 1K JA 1/4W
R1010	401 017 8506	CARBON 300 JA 1/4W
R1011	401 015 2605	CARBON 1.8K JA 1/4W
R1012	401 015 4609	CARBON 180K JA 1/4W
R1013	401 012 9201	CARBON 1M JA 1/4W
R1014	401 016 3700	CARBON 2.2K JA 1/4W
R1015	401 023 2703	CARBON 8.2K JA 1/4W
R1016	401 013 5202	CARBON 1.2K JA 1/4W
R1017	401 018 4804	CARBON 33K JA 1/4W
R1018	401 012 5609	CARBON 1K JA 1/4W
R1019	401 020 0702	CARBON 470 JA 1/4W
R1020	401 020 3802	CARBON 470K JA 1/4W
R1021	401 014 6000	CARBON 150K JA 1/4W
R1022	401 022 1806	CARBON 680 JA 1/4W
R1023	401 016 4707	CARBON 22K JA 1/4W
R1024	401 020 2805	CARBON 47K JA 1/4W
R1025	401 016 3700	CARBON 2.2K JA 1/4W
R1026	401 012 5609	CARBON 1K JA 1/4W
R1031	401 012 5609	CARBON 1K JA 1/4W
R1032	401 020 0702	CARBON 470 JA 1/4W
R1033	401 018 9700	CARBON 39 JA 1/4W
R1034	401 018 9700	CARBON 39 JA 1/4W
R1035	401 018 9700	CARBON 39 JA 1/4W
R1051	401 012 4404	CARBON 100 JA 1/4W
R1052	401 012 5609	CARBON 1K JA 1/4W
R1081	401 020 0702	CARBON 470 JA 1/4W
R1082	401 021 1807	CARBON 560 JA 1/4W
R1101	401 020 2805	CARBON 47K JA 1/4W
R1102	401 016 4707	CARBON 22K JA 1/4W
R1103	401 012 5609	CARBON 1K JA 1/4W
R1104	401 013 5202	CARBON 1.2K JA 1/4W
R1105	401 018 2701	CARBON 330 JA 1/4W
R1106	401 021 1807	CARBON 560 JA 1/4W
R1107	401 012 5609	CARBON 1K JA 1/4W
R1108	401 012 5609	CARBON 1K JA 1/4W
R1109	401 012 6903	CARBON 10K JA 1/4W
R1110	401 023 2703	CARBON 8.2K JA 1/4W
R1111	401 012 5609	CARBON 1K JA 1/4W
R1112	401 015 2605	CARBON 1.8K JA 1/4W
R1113	401 012 8006	CARBON 100K JA 1/4W
R1114	401 019 0904	CARBON 390 JA 1/4W
R1115	401 012 5609	CARBON 1K JA 1/4W
R1116	401 019 1802	CARBON 3.9K JA 1/4W
R1117	401 014 4006	CARBON 1.5K JA 1/4W
R1118	401 022 7105	CARBON 750 JA 1/4W
R1119	401 012 5609	CARBON 1K JA 1/4W
R1120	401 012 4404	CARBON 100 JA 1/4W
R1121	401 012 5609	CARBON 1K JA 1/4W
R1122	401 020 0702	CARBON 470 JA 1/4W
R1123	401 014 4006	CARBON 1.5K JA 1/4W
R1124	401 015 8805	CARBON 200 JA 1/4W

LOCATION	PARTS NO.	DESCRIPTION
R1125	401 023 1607	CARBON 820 JA 1/4W
R1126	401 012 5609	CARBON 1K JA 1/4W
R1127	401 014 8202	CARBON 160 JA 1/4W
R1152	401 012 5609	CARBON 1K JA 1/4W
R1271	401 022 1806	CARBON 680 JA 1/4W
R1272	401 016 2505	CARBON 220 JA 1/4W
R1301	401 012 6903	CARBON 10K JA 1/4W
R1302	401 012 5609	CARBON 1K JA 1/4W
R1303	401 012 5609	CARBON 1K JA 1/4W
R1304	401 020 2805	CARBON 47K JA 1/4W
R1305	401 016 4707	CARBON 22K JA 1/4W
R1306	401 015 4609	CARBON 180K JA 1/4W
R1351	401 016 3700	CARBON 2.2K JA 1/4W
R1352	401 016 3700	CARBON 2.2K JA 1/4W
R1381	401 012 6903	CARBON 10K JA 1/4W
R1391	401 014 2804	CARBON 150 JA 1/4W
R1401	401 016 4707	CARBON 22K JA 1/4W
R1402	401 016 4707	CARBON 22K JA 1/4W
R1403	401 020 1907	CARBON 4.7K JA 1/4W
R1404	401 020 1907	CARBON 4.7K JA 1/4W
R1405	401 020 2805	CARBON 47K JA 1/4W
R1406	401 020 2805	CARBON 47K JA 1/4W
R1407	401 015 2605	CARBON 1.8K JA 1/4W
R1408	401 016 2505	CARBON 220 JA 1/4W
R1601	401 012 5609	CARBON 1K JA 1/4W
R1602	401 012 5609	CARBON 1K JA 1/4W
R1607	401 021 1807	CARBON 560 JA 1/4W
R1608	401 022 6702	CARBON 75 JA 1/4W
R1609	401 013 9408	CARBON 1.3K JA 1/4W
R1610	401 021 1807	CARBON 560 JA 1/4W
R1611	401 012 6903	CARBON 10K JA 1/4W
R1612	401 021 2903	CARBON 5.6K JA 1/4W
R1613	401 021 2903	CARBON 5.6K JA 1/4W
R1614	401 016 4707	CARBON 22K JA 1/4W
R1615	401 021 0602	CARBON 56 JA 1/4W
R1616	401 012 5609	CARBON 1K JA 1/4W
R1620	401 022 3008	CARBON 6.8K JA 1/4W
R1621	401 021 1807	CARBON 560 JA 1/4W
R1622	401 016 2505	CARBON 220 JA 1/4W
R1631	401 021 2903	CARBON 5.6K JA 1/4W
R1632	401 012 5609	CARBON 1K JA 1/4W
R1633	401 023 1607	CARBON 820 JA 1/4W
R1634	401 015 2605	CARBON 1.8K JA 1/4W
R1641	401 015 2605	CARBON 1.8K JA 1/4W
TH101	407 142 4208	THERMISTOR TD5-C310DB
VR101	613 079 2525	VR,SEMI 1KB
OR	613 120 8537	VR,SEMI 1KB
VR102	613 079 2532	VR,SEMI 10KB
OR	613 120 8544	VR,SEMI 10KB
VR103	613 120 8506	VR,SEMI 4.7KB
OR	613 120 8650	VR,SEMI 4.7KB
VR104	613 079 2532	VR,SEMI 10KB
OR	613 120 8544	VR,SEMI 10KB
VR105	613 079 2525	VR,SEMI 1KB
OR	613 120 8537	VR,SEMI 1KB
VR181	613 097 7984	VR,SEMI 470B
OR	613 001 8953	SEMI VR 470B
VR182	613 097 7892	VR,SEMI 1KB
OR	613 001 8977	SEMI VR 1KB
X1101	613 080 9407	OSC,CRYSTAL 4.43MHZ
OR	613 093 8008	OSC,CRYSTAL 4.433619MHZ
OR	613 120 8865	OSC,CRYSTAL 4.433619MHZ
XF101	613 004 5539	LC PACK 4MHZ LPF
XF111	613 111 3800	FILTER,5.06 4.43M B,1M L

AUDIO CIRCUIT(AD-A)

LOCATION	PARTS NO.	DESCRIPTION
	613 126 7329	FLEXIBLE FLAT CABLES,CN251-CN271
C2001	403 191 8709	ELECT 1U M 50V
C2002	403 075 4506	CERAMIC 820P K 50V
C2004	403 167 6500	ELECT 33U M 6.3V
C2005	403 003 0600	CERAMIC 0.018U K 25V
C2006	403 193 8608	ELECT 0.47U M 50V
C2008	403 001 7403	CERAMIC 4700P K 16V
C2009	403 163 7907	ELECT 47U M 6.3V
C2010	403 189 2405	ELECT 10U M 16V
C2013	403 003 2406	CERAMIC 0.022U J 25V
C2016	403 191 8709	ELECT 1U M 50V
C2017	403 149 0700	ELECT 33U M 16V
C2018	403 191 8600	ELECT 4.7U M 25V
C2019	403 163 8409	ELECT 47U M 16V
C2020	403 071 6207	CERAMIC 220P K 50V
C2021	403 081 7409	POLYPRO 0.033U J 100V
C2022	403 002 1905	CERAMIC 0.01U K 25V
C2024	403 002 1905	CERAMIC 0.01U K 25V
C2025	403 003 3700	CERAMIC 0.022U Z 25V
C2051	403 069 1207	CERAMIC 1000P K 50V
C2071	403 075 4001	CERAMIC 820P J 50V
C2072	403 191 8709	ELECT 1U M 50V
C2073	403 003 8606	CERAMIC 0.039U J 25V
C2075	403 191 8600	ELECT 4.7U M 25V
C2301	403 121 3002	ELECT 4.7U M 25V
C2302	403 121 3002	ELECT 4.7U M 25V
C2303	403 121 3002	ELECT 4.7U M 25V
C2304	403 001 1609	CERAMIC 0.01U K 16V
C2305	403 129 5602	ELECT 33U M 10V
C2306	403 121 3002	ELECT 4.7U M 25V
C2307	403 107 9509	ELECT 100U M 10V
C2308	403 135 5009	ELECT 47U M 10V
C2309	403 134 9602	ELECT 47U M 16V
C2310	403 107 9905	ELECT 10U M 16V
C2311	403 163 8003	ELECT 33U M 10V
C2312	403 001 1609	CERAMIC 0.01U K 16V
C2313	403 134 8100	ELECT 100U M 6.3V
C2314	403 001 3801	CERAMIC 1500P K 16V
C2315	403 073 7004	CERAMIC 470P K 50V
C2318	403 001 1609	CERAMIC 0.01U K 16V
C2319	403 135 3500	ELECT 220U M 6.3V
C2320	403 135 5009	ELECT 47U M 10V
C2323	403 193 9001	ELECT 3.3U M 50V
C2401	403 121 3002	ELECT 4.7U M 25V
C2402	403 121 3002	ELECT 4.7U M 25V
C2403	403 121 3002	ELECT 4.7U M 25V
C2404	403 001 1609	CERAMIC 0.01U K 16V
C2405	403 129 5602	ELECT 33U M 10V
C2406	403 121 3002	ELECT 4.7U M 25V
C2407	403 107 9509	ELECT 100U M 10V
C2408	403 135 5009	ELECT 47U M 10V
C2409	403 134 9602	ELECT 47U M 16V
C2410	403 107 9905	ELECT 10U M 16V
C2411	403 129 5602	ELECT 33U M 10V
C2412	403 001 1609	CERAMIC 0.01U K 16V
C2413	403 134 8100	ELECT 100U M 6.3V
C2414	403 001 3801	CERAMIC 1500P K 16V
C2415	403 073 7004	CERAMIC 470P K 50V
C2418	403 001 1609	CERAMIC 0.01U K 16V
C2419	403 135 3500	ELECT 220U M 6.3V
C2420	403 135 5009	ELECT 47U M 10V
C2423	403 135 7805	ELECT 3.3U M 50V
C2501	403 193 9001	ELECT 3.3U M 50V
C2502	403 134 9602	ELECT 47U M 16V
C2503	403 107 9905	ELECT 10U M 16V
C2504	403 125 5606	ELECT 100U M 16V
C2505	403 001 1609	CERAMIC 0.01U K 16V
C2506	403 069 1207	CERAMIC 1000P K 50V
C2507	403 072 7500	CERAMIC 330P J 50V
C2508	403 167 6500	ELECT 33U M 6.3V
C2509	403 191 8600	ELECT 4.7U M 25V
C2510	403 189 2405	ELECT 10U M 16V
C2511	403 107 9905	ELECT 10U M 16V
C2513	403 121 3408	ELECT 2.2U M 50V
C2514	403 134 9602	ELECT 47U M 16V
C2515	403 001 1609	CERAMIC 0.01U K 16V
C2517	403 003 6701	CERAMIC 0.033U K 25V
C2518	403 125 5606	ELECT 100U M 16V
C2520	403 135 5009	ELECT 47U M 10V
C2521	403 069 1207	CERAMIC 1000P K 50V
C2522	403 001 1609	CERAMIC 0.01U K 16V
C2527	403 107 9905	ELECT 10U M 16V
D2001	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2501	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2502	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2509	407 053 6308	ZENER DIODE MTZ5.1B-T-77
D2510	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2511	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2512	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2513	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2514	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2515	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2516	407 099 5303	ZENER DIODE MTZJ5.6B-T-77
D2517	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2518	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
IC201	409 133 1401	IC LA7294
IC231	409 252 4208	IC UPC2354AGF
IC232	409 036 8408	IC M5237L-TC04A-31
IC233	409 039 7309	IC NJM4556S
L2002	613 014 3037	COIL,INDUCTOR 10MHJ
L2003	613 014 2870	COIL,INDUCTOR 560UHK
Q2001	405 024 9709	TR 2SD734-E-AA
OR	405 024 9907	TR 2SD734-F-AA
Q2303	405 076 6404	TR DTC343T-STP
Q2304	405 076 6404	TR DTC343T-STP
Q2403	405 076 6404	TR DTC343T-STP
Q2404	405 076 6404	TR DTC343T-STP
Q2502	405 007 3106	TR 2SB544-F-MP-AE
Q2503	405 089 2103	TR 2SC4483-S-AN
Q2504	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
Q2505	405 000 6104	TR DTC144ES-DCTP
Q2506	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
Q2507	405 003 7702	TR 2SA1346-AC
Q2508	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
Q2509	405 003 7702	TR 2SA1346-AC
Q2512	405 003 7702	TR 2SA1346-AC
Q2514	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
Q2515	405 018 2501	TR 2SC3399-AC

LOCATION	PARTS NO.	DESCRIPTION
Q2515	405 000 6104	TR DTC144ES-DCTP
Q2518	405 018 2808	TR 2SC3402-AC
OR	405 000 3103	TR DTC114ES-DCTP
Q2519	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
Q2522	405 024 0409	TR 2SD545-F-NP-AA
Q2523	405 018 2808	TR 2SC3402-AC
OR	405 000 3103	TR DTC114ES-DCTP
R2001	401 012 4404	CARBON 100 JA 1/4W
R2002	401 017 1705	CARBON 2.7K JA 1/4W
R2003	401 013 4106	CARBON 120 JA 1/4W
R2004	401 019 3905	CARBON 390K JA 1/4W
R2005	401 021 8905	CARBON 6.2K JA 1/4W
R2006	401 017 1705	CARBON 2.7K JA 1/4W
R2007	401 012 5609	CARBON 1K JA 1/4W
R2008	401 022 7600	CARBON 7.5K JA 1/4W
R2009	401 018 6501	CARBON 3.3M JA 1/4W
R2010	401 012 6903	CARBON 10K JA 1/4W
R2011	401 023 7401	CARBON 9.1K JA 1/4W
R2012	401 019 7705	CARBON 4.3K JA 1/4W
R2013	401 012 5609	CARBON 1K JA 1/4W
R2014	401 015 2605	CARBON 1.8K JA 1/4W
R2016	401 012 8006	CARBON 100K JA 1/4W
R2018	401 015 3701	CARBON 18K JA 1/4W
R2019	401 015 3701	CARBON 18K JA 1/4W
R2021	401 012 3308	CARBON 10 JA 1/4W
R2022	401 019 9501	CARBON 47 JA 1/4W
R2023	401 014 5102	CARBON 15K JA 1/4W
R2024	401 015 6405	CARBON 2.2 JA 1/4W
R2051	401 012 5609	CARBON 1K JA 1/4W
R2071	401 013 4106	CARBON 120 JA 1/4W
R2072	401 012 6903	CARBON 10K JA 1/4W
R2091	401 021 2903	CARBON 5.6K JA 1/4W
R2092	401 021 2903	CARBON 5.6K JA 1/4W
R2301	401 017 2702	CARBON 27K JA 1/4W
R2302	401 020 2805	CARBON 47K JA 1/4W
R2303	401 015 3701	CARBON 18K JA 1/4W
R2304	401 020 2805	CARBON 47K JA 1/4W
R2305	401 017 2702	CARBON 27K JA 1/4W
R2306	401 020 2805	CARBON 47K JA 1/4W
R2307	401 012 5609	CARBON 1K JA 1/4W
R2308	401 012 6903	CARBON 10K JA 1/4W
R2309	401 022 3008	CARBON 6.8K JA 1/4W
R2310	401 012 5609	CARBON 1K JA 1/4W
R2311	401 016 0402	CARBON 200K JA 1/4W
R2312	401 017 9701	CARBON 30K JA 1/4W
R2313	401 087 2909	MT-FILM 12K FD 1/6W
R2314	401 014 9001	CARBON 16K JA 1/4W
R2315	401 016 9603	CARBON 27 JA 1/4W
R2316	401 016 3700	CARBON 2.2K JA 1/4W
R2317	401 016 2505	CARBON 220 JA 1/4W
R2318	401 020 1907	CARBON 4.7K JA 1/4W
R2323	401 020 1907	CARBON 4.7K JA 1/4W
R2401	401 017 2702	CARBON 27K JA 1/4W
R2402	401 020 2805	CARBON 47K JA 1/4W
R2403	401 015 3701	CARBON 18K JA 1/4W
R2404	401 020 2805	CARBON 47K JA 1/4W
R2405	401 017 2702	CARBON 27K JA 1/4W
R2406	401 020 2805	CARBON 47K JA 1/4W
R2407	401 012 5609	CARBON 1K JA 1/4W
R2408	401 012 6903	CARBON 10K JA 1/4W
R2409	401 022 3008	CARBON 6.8K JA 1/4W
R2410	401 012 5609	CARBON 1K JA 1/4W
R2411	401 016 0402	CARBON 200K JA 1/4W
R2412	401 017 9701	CARBON 30K JA 1/4W
R2413	401 091 3305	MT-FILM 7.5K FD 1/6W
R2414	401 020 1907	CARBON 4.7K JA 1/4W
R2415	401 016 9603	CARBON 27 JA 1/4W

LOCATION	PARTS NO.	DESCRIPTION
R2416	401 016 3700	CARBON 2.2K JA 1/4W
R2417	401 016 2505	CARBON 220 JA 1/4W
R2501	401 012 6903	CARBON 10K JA 1/4W
R2502	401 012 6903	CARBON 10K JA 1/4W
R2503	401 012 6903	CARBON 10K JA 1/4W
R2504	401 013 6308	CARBON 12K JA 1/4W
R2505	401 012 6903	CARBON 10K JA 1/4W
R2506	401 020 1907	CARBON 4.7K JA 1/4W
R2507	401 020 1907	CARBON 4.7K JA 1/4W
R2509	401 012 9201	CARBON 1M JA 1/4W
R2510	401 012 8006	CARBON 100K JA 1/4W
R2513	401 012 6903	CARBON 10K JA 1/4W
R2514	401 023 7401	CARBON 9.1K JA 1/4W
R2515	401 012 6903	CARBON 10K JA 1/4W
R2518	401 017 8506	CARBON 300 JA 1/4W
R2519	401 019 2908	CARBON 39K JA 1/4W
R2520	401 016 4707	CARBON 22K JA 1/4W
R2521	401 017 9701	CARBON 30K JA 1/4W
R2522	401 020 1907	CARBON 4.7K JA 1/4W
R2523	401 012 6903	CARBON 10K JA 1/4W
R2524	401 012 6903	CARBON 10K JA 1/4W
R2525	401 018 4804	CARBON 33K JA 1/4W
R2526	401 016 4707	CARBON 22K JA 1/4W
R2527	401 019 1802	CARBON 3.9K JA 1/4W
R2528	401 016 4707	CARBON 22K JA 1/4W
R2529	401 018 8307	CARBON 36K JA 1/4W
R2531	401 012 5609	CARBON 1K JA 1/4W
R2534	401 016 2505	CARBON 220 JA 1/4W
R2536	401 019 7705	CARBON 4.3K JA 1/4W
R2537	401 018 4804	CARBON 33K JA 1/4W
R2538	401 020 1907	CARBON 4.7K JA 1/4W
R2539	401 019 7200	CARBON 430 JA 1/4W
R2540	401 012 6903	CARBON 10K JA 1/4W
R2541	401 020 1907	CARBON 4.7K JA 1/4W
R2542	401 016 4707	CARBON 22K JA 1/4W
R2544	401 087 4804	MT-FILM 8.2K FD 1/6W
R2545	401 012 6903	CARBON 10K JA 1/4W
R2547	401 014 4006	CARBON 1.5K JA 1/4W
R2548	401 012 6903	CARBON 10K JA 1/4W
R2551	401 020 1907	CARBON 4.7K JA 1/4W
R2552	401 020 1907	CARBON 4.7K JA 1/4W
R2557	401 015 2605	CARBON 1.8K JA 1/4W
R2558	401 021 2903	CARBON 5.6K JA 1/4W
T2001	613 016 2205	OSC COIL 70KHZ
OR	613 094 3378	TRANS.OSC 70KHZ
VR201	613 001 9097	SEMI VR 100KB
VR233	613 001 5853	SEMI VR 10KB
VR234	613 001 5853	SEMI VR 10KB
VR235	613 001 9424	SEMI VR 20KB
OR	613 079 2549	VR.SEMI 20KB
VR236	613 001 9424	SEMI VR 20KB
OR	613 079 2549	VR.SEMI 20KB
VR239	613 001 9400	SEMI VR 5KB
OR	613 112 4912	VR.SEMI 5KB
VR243	613 001 5648	SEMI VR 100KB

SYSTEM CONTROL & SERVO CIRCUIT(SV-A)

C3001	403 121 9509	CERAMIC 0.1U Z 50V
C3002	403 159 8109	ELECT 100U M 6.3V
C3003	403 139 1601	ELECT 22U M 16V
C3004	403 121 9509	CERAMIC 0.1U Z 50V
C3005	403 069 1207	CERAMIC 1000P K 50V
C3006	403 012 6006	CERAMIC 15P J 50V
C3007	403 017 9705	CERAMIC 22P J 50V
C3008	403 001 1609	CERAMIC 0.01U K 16V
C3009	403 010 7807	CERAMIC 12P J 50V

LOCATION	PARTS NO.	DESCRIPTION
C3010	403 068 9402	CERAMIC 100P K 50V
C3012	403 001 1609	CERAMIC 0.01U K 16V
C3013	403 001 1609	CERAMIC 0.01U K 16V
C3014	403 139 1403	ELECT 47U M 10V
C3016	403 069 1207	CERAMIC 1000P K 50V
C3017	403 001 1609	CERAMIC 0.01U K 16V
C3018	403 001 1609	CERAMIC 0.01U K 16V
C3019	403 069 1207	CERAMIC 1000P K 50V
C3021	403 001 1609	CERAMIC 0.01U K 16V
C3022	403 001 1609	CERAMIC 0.01U K 16V
C3023	403 069 1207	CERAMIC 1000P K 50V
C3024	403 204 5107	NP-ELECT 10U M 25V
C3025	403 204 5107	NP-ELECT 10U M 25V
C3026	403 069 1207	CERAMIC 1000P K 50V
C3027	403 139 2905	ELECT 2.2U M 50V
C3028	403 121 9509	CERAMIC 0.1U Z 50V
C3029	403 002 2506	CERAMIC 0.01U M 25V
C3501	403 003 2802	CERAMIC 0.022U K 25V
C3502	403 071 6207	CERAMIC 220P K 50V
C3503	403 071 6207	CERAMIC 220P K 50V
C3504	403 001 6208	CERAMIC 2700P M 16V
C3505	403 001 1609	CERAMIC 0.01U K 16V
C3506	403 003 2802	CERAMIC 0.022U K 25V
C3507	403 119 6701	CERAMIC 0.068U K 16V
OR	403 214 2707	CERAMIC 0.068U K 16V
C3509	403 072 8200	CERAMIC 330P K 50V
C3512	403 139 1007	ELECT 47U M 6.3V
C3513	403 001 1609	CERAMIC 0.01U K 16V
C3514	403 086 2904	NP-ELECT 1U M 50V
C3515	403 139 1502	ELECT 10U M 16V
C3516	403 139 3001	ELECT 3.3U M 50V
C3517	403 074 9205	CERAMIC 680P K 50V
C3518	403 085 6101	NP-ELECT 33U M 16V
C3519	403 069 1207	CERAMIC 1000P K 50V
C3520	403 184 9102	MT-POLYEST 0.033U J 50V
C3521	403 069 1207	CERAMIC 1000P K 50V
C3522	403 139 1007	ELECT 47U M 6.3V
C3524	403 001 1906	CERAMIC 0.01U M 16V
C3525	403 139 2707	ELECT 1U M 50V
C3526	403 086 2904	NP-ELECT 1U M 50V
C3527	403 001 1609	CERAMIC 0.01U K 16V
C3528	403 139 2400	ELECT 0.22U M 50V
C3529	403 001 1609	CERAMIC 0.01U K 16V
C3530	403 121 9509	CERAMIC 0.1U Z 50V
C3951	403 059 2900	POLYESTER 2200P J 50V
OR	403 059 3006	POLYESTER 2200P J 50V
C3952	403 139 2707	ELECT 1U M 50V
C3953	403 139 1007	ELECT 47U M 6.3V
C3954	403 003 3700	CERAMIC 0.022U Z 25V
C3955	403 068 9402	CERAMIC 100P K 50V
C3956	403 139 2707	ELECT 1U M 50V
D3001	407 078 2705	DIODE 1SS244-T-77
D3010	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D3021	407 070 8101	ZENER DIODE GZS8.2Y-BT
OR	407 063 9504	ZENER DIODE MTZJ8.2B-T-77
D3022	407 051 6904	ZENER DIODE GZS5.6Y-BT
OR	407 099 5303	ZENER DIODE MTZJ5.6B-T-77
D3023	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D3025	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D3501	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D3504	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D3505	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77

LOCATION	PARTS NO.	DESCRIPTION
D3506	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D3951	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D3952	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D3953	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
IC301	410 128 9500	IC UPD78136GF-012-3B9
IC302	409 032 3704	IC MN1280-R
OR	409 032 3803	IC MN1280-S
OR	409 243 4200	IC MN1380-R
OR	409 243 4309	IC MN1380-S
IC303	409 114 4803	IC LB1641
IC352	409 178 3200	IC LA7124
IC391	409 225 6109	IC BA7046
L3005	613 014 1187	COIL,INDUCTOR 68UHJ
OR	613 014 4706	HF CHOKE 68UH J
Q3001	405 019 2807	TR 2SC536-F-SPA-AC
Q3002	405 019 2807	TR 2SC536-F-SPA-AC
Q3005	405 015 2603	TR 2SC2669-Y-TPE4
OR	405 016 1100	TR 2SC2839-F-SPA-AC
Q3006	405 019 2807	TR 2SC536-F-SPA-AC
Q3007	405 018 2808	TR 2SC3402-AC
Q3022	405 000 6104	TR DTC144ES-DCTP
OR	405 018 2501	TR 2SC3399-AC
Q3023	405 000 3103	TR DTC114ES-DCTP
OR	405 018 2808	TR 2SC3402-AC
Q3024	405 000 3103	TR DTC114ES-DCTP
OR	405 018 2808	TR 2SC3402-AC
Q3501	405 019 2807	TR 2SC536-F-SPA-AC
Q3601	405 000 6104	TR DTC144ES-DCTP
OR	405 018 2501	TR 2SC3399-AC
Q3602	405 000 6104	TR DTC144ES-DCTP
OR	405 018 2501	TR 2SC3399-AC
Q3952	405 016 1100	TR 2SC2839-F-SPA-AC
Q3953	405 000 6104	TR DTC144ES-DCTP
OR	405 018 2501	TR 2SC3399-AC
R3001	401 018 3708	CARBON 3.3K JA 1/4W
R3002	401 012 6903	CARBON 10K JA 1/4W
R3003	401 020 1907	CARBON 4.7K JA 1/4W
R3006	401 022 7105	CARBON 750 JA 1/4W
R3007	401 012 5609	CARBON 1K JA 1/4W
R3008	401 016 3700	CARBON 2.2K JA 1/4W
R3009	401 023 2703	CARBON 8.2K JA 1/4W
R3010	401 012 5609	CARBON 1K JA 1/4W
R3011	401 019 1802	CARBON 3.9K JA 1/4W
R3012	401 020 0702	CARBON 470 JA 1/4W
R3014	401 019 1802	CARBON 3.9K JA 1/4W
R3015	401 012 5609	CARBON 1K JA 1/4W
R3016	401 018 4804	CARBON 33K JA 1/4W
R3017	401 018 4804	CARBON 33K JA 1/4W
R3018	401 012 6903	CARBON 10K JA 1/4W
R3031	401 012 5609	CARBON 1K JA 1/4W
R3032	401 012 5609	CARBON 1K JA 1/4W
R3033	401 012 5609	CARBON 1K JA 1/4W
R3034	401 020 1907	CARBON 4.7K JA 1/4W
R3035	401 020 1907	CARBON 4.7K JA 1/4W
R3036	401 020 1907	CARBON 4.7K JA 1/4W
R3041	401 020 1907	CARBON 4.7K JA 1/4W
R3042	401 016 0402	CARBON 200K JA 1/4W
R3043	401 016 0402	CARBON 200K JA 1/4W
R3044	401 012 5609	CARBON 1K JA 1/4W
R3045	401 012 5609	CARBON 1K JA 1/4W
R3046	401 012 5609	CARBON 1K JA 1/4W

LOCATION	PARTS NO.	DESCRIPTION
R3047	401 012 5609	CARBON 1K JA 1/4W
R3048	401 012 5609	CARBON 1K JA 1/4W
R3049	401 020 2805	CARBON 47K JA 1/4W
R3050	401 018 4804	CARBON 33K JA 1/4W
R3051	401 020 1907	CARBON 4.7K JA 1/4W
R3052	401 012 5609	CARBON 1K JA 1/4W
R3053	401 016 4707	CARBON 22K JA 1/4W
R3054	401 014 7106	CARBON 1.5M JA 1/4W
R3055	401 012 6903	CARBON 10K JA 1/4W
R3059	401 020 2805	CARBON 47K JA 1/4W
R3060	401 018 4804	CARBON 33K JA 1/4W
R3061	401 014 7106	CARBON 1.5M JA 1/4W
R3062	401 016 4707	CARBON 22K JA 1/4W
R3063	401 022 7105	CARBON 750 JA 1/4W
R3064	402 036 4401	FUSIBLE RES 3.3 JA 1/2W
OR	402 036 3701	FUSIBLE RES 3.3 JA 1/2W
R3065	401 012 6903	CARBON 10K JA 1/4W
R3066	401 012 6903	CARBON 10K JA 1/4W
R3068	401 014 5102	CARBON 15K JA 1/4W
R3501	401 012 5609	CARBON 1K JA 1/4W
R3502	401 016 4707	CARBON 22K JA 1/4W
R3503	401 012 8006	CARBON 100K JA 1/4W
R3504	401 012 6903	CARBON 10K JA 1/4W
R3506	401 012 8006	CARBON 100K JA 1/4W
R3507	401 012 8006	CARBON 100K JA 1/4W
R3510	401 012 6903	CARBON 10K JA 1/4W
R3511	401 012 5609	CARBON 1K JA 1/4W
R3514	401 016 3700	CARBON 2.2K JA 1/4W
R3515	401 016 3700	CARBON 2.2K JA 1/4W
R3516	401 023 6909	CARBON 910 JA 1/4W
R3517	401 012 5609	CARBON 1K JA 1/4W
R3518	401 015 4609	CARBON 180K JA 1/4W
R3519	401 013 6308	CARBON 12K JA 1/4W
R3520	401 021 9902	CARBON 620K JA 1/4W
R3521	401 022 8508	CARBON 750K JA 1/4W
R3522	401 014 6000	CARBON 150K JA 1/4W
R3523	401 012 8006	CARBON 100K JA 1/4W
R3524	401 012 8006	CARBON 100K JA 1/4W
R3525	401 018 7508	CARBON 360 JA 1/4W
R3526	401 020 7800	CARBON 510 JA 1/4W
R3527	401 020 7800	CARBON 510 JA 1/4W
R3528	401 012 6903	CARBON 10K JA 1/4W
R3529	401 012 6903	CARBON 10K JA 1/4W
R3530	401 012 5609	CARBON 1K JA 1/4W
R3531	401 012 5609	CARBON 1K JA 1/4W
R3532	401 012 5609	CARBON 1K JA 1/4W
R3533	401 012 8006	CARBON 100K JA 1/4W
R3534	401 012 5609	CARBON 1K JA 1/4W
R3951	401 020 3802	CARBON 470K JA 1/4W
R3952	401 107 8003	MT-FILM 130K FD 1/4W
R3953	401 012 6903	CARBON 10K JA 1/4W
R3954	401 012 5609	CARBON 1K JA 1/4W
R3955	401 020 3802	CARBON 470K JA 1/4W
R3956	401 018 3708	CARBON 3.3K JA 1/4W
R3957	401 018 3708	CARBON 3.3K JA 1/4W
R3958	401 012 8006	CARBON 100K JA 1/4W
R3959	401 016 3700	CARBON 2.2K JA 1/4W
R3960	401 017 1705	CARBON 2.7K JA 1/4W
R3961	401 016 3700	CARBON 2.2K JA 1/4W
R3962	401 016 3700	CARBON 2.2K JA 1/4W
VR351	613 001 9110	SEMI VR 220KB
OR	613 097 7953	VR,SEMI 220KB
VR353	613 001 9035	SEMI VR 10KB
OR	613 097 7908	VR,SEMI 10KB
VR354	613 001 9035	SEMI VR 10KB
OR	613 097 7908	VR,SEMI 10KB
XF301	613 129 4462	OSC,CRYSTAL 12MHZ

LOCATION	PARTS NO.	DESCRIPTION
POWER SUPPLY CIRCUIT(PW-A)		
C5401	403 001 1609	CERAMIC 0.01U K 16V
C5402	403 135 4002	ELECT 47U M 6.3V
C5403	403 134 8100	ELECT 100U M 6.3V
D5401	407 012 4406	DIODE 1SS133-T-77
D5402	407 099 5204	ZENER DIODE MTZJ5.1B-T-77
Q5401	405 088 9103	TR 2SA1703-S-AN
OR	405 108 6907	TR 2SB1322A-R(TA)
OR	405 108 7003	TR 2SB1322A-S(TA)
Q5402	405 107 4102	TR 2SD1994-R (TA)
OR	405 107 4201	TR 2SD1994-S (TA)
OR	405 089 2103	TR 2SC4483-S-AN
R5401	401 021 8905	CARBON 6.2K JA 1/4W
R5402	401 016 3700	CARBON 2.2K JA 1/4W
R5403	401 012 5609	CARBON 1K JA 1/4W
R5404 ⚠	402 004 2200	FUSIBLE RES 5.6 JA 1/4W
COMPL PCB,VP-1		
COMPL.NO.	613 123 6110	
VIDEO PRE-AMP. CIRCUIT(VP-A)		
C1801	403 071 8102	CERAMIC 2200P K 50V
C1802	403 071 8102	CERAMIC 2200P K 50V
C1803	403 071 8102	CERAMIC 2200P K 50V
C1804	403 073 1200	CERAMIC 0.033U K 50V
C1805	403 191 8709	ELECT 1U M 50V
C1806	403 071 8102	CERAMIC 2200P K 50V
C1807	403 073 1200	CERAMIC 0.033U K 50V
C1808	403 073 1200	CERAMIC 0.033U K 50V
C1812	403 069 5601	CERAMIC 0.01U K 50V
C1813	403 069 5601	CERAMIC 0.01U K 50V
C1814	403 073 1200	CERAMIC 0.033U K 50V
C1815	403 069 5601	CERAMIC 0.01U K 50V
C1816	403 069 5601	CERAMIC 0.01U K 50V
C1817	403 069 1702	CERAMIC 1000P K 50V
C1818	403 154 3307	OS-SOLID 4.7U M 10V
C1820	403 154 5806	OS-SOLID 6.8U M 16V
C1851	403 014 9302	CERAMIC 180P J 50V
C1852	403 031 2201	CERAMIC 680P J 50V
C1853	403 018 0602	CERAMIC 22P J 50V
C1855	403 028 4201	CERAMIC 56P J 50V
C1856	403 069 5601	CERAMIC 0.01U K 50V
C1857	403 069 5601	CERAMIC 0.01U K 50V
C1858	403 009 5807	CERAMIC 100P J 50V
C1859	403 026 2902	CERAMIC 47P J 50V
C1860	403 069 5601	CERAMIC 0.01U K 50V
C1861	403 070 1005	CERAMIC 0.1U K 50V
C1891	403 191 8709	ELECT 1U M 50V
C1892	403 073 1200	CERAMIC 0.033U K 50V
C1893	403 073 1200	CERAMIC 0.033U K 50V
C1895	403 069 1702	CERAMIC 1000P K 50V
C1896	403 073 1200	CERAMIC 0.033U K 50V
D1851	407 077 3109	DIODE SB0015-03A-BT
D1852	407 077 3109	DIODE SB0015-03A-BT
IC181	409 161 9806	IC LA7321
J1835	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J1836	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J1837	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J1838	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J1850	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J1851	401 037 5004	MT-GLAZE 0.000 ZA 1/10W

LOCATION	PARTS NO.	DESCRIPTION
J1854	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J1855	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J1856	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J1857	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J1858	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J1859	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J1891	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J1899	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
L1851	613 014 0975	COIL,INDUCTOR 100UHK
OR	613 014 4492	HF CHOKE 100UH K
L1852	613 014 0951	COIL,INDUCTOR 68UHK
OR	613 014 4478	HF CHOKE 68UH K
L1855	613 014 8223	HF CHOKE 56UH J
OR	613 015 6174	COIL,INDUCTOR 56UHJ
L1856	613 014 8216	HF CHOKE 47UH J
OR	613 015 6167	COIL,INDUCTOR 47UHJ
Q1851	405 035 6100	TR 2SC2413K-T96-Q
OR	405 015 9701	TR 2SC2814-F4-TB
Q1852	405 002 0308	TR 2SA1037K-T96-R
OR	405 002 0407	TR 2SA1037K-T96-S
OR	405 002 6508	TR 2SA1179-M5-TB
OR	405 002 6706	TR 2SA1179-M6-TB
Q1853	405 035 6100	TR 2SC2413K-T96-Q
OR	405 015 9701	TR 2SC2814-F4-TB
Q1854	405 035 6100	TR 2SC2413K-T96-Q
OR	405 015 9701	TR 2SC2814-F4-TB
Q1855	405 014 4400	TR 2SC2412K-T96-Q
OR	405 014 4509	TR 2SC2412K-T96-R
OR	405 014 4608	TR 2SC2412K-T96-S
OR	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
Q1872	405 002 0308	TR 2SA1037K-T96-R
OR	405 002 0407	TR 2SA1037K-T96-S
OR	405 002 6508	TR 2SA1179-M5-TB
OR	405 002 6706	TR 2SA1179-M6-TB
Q1893	405 029 3504	TR DTC144EK-T96
OR	405 018 1900	TR 2SC3395-TB
Q1894	405 029 3504	TR DTC144EK-T96
OR	405 018 1900	TR 2SC3395-TB
Q1895	405 029 3504	TR DTC144EK-T96
OR	405 018 1900	TR 2SC3395-TB
Q1896	405 029 3504	TR DTC144EK-T96
OR	405 018 1900	TR 2SC3395-TB
R1801	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R1802	401 038 8103	MT-GLAZE 6.8 JA 1/10W
R1803	401 038 0503	MT-GLAZE 22 JA 1/10W
R1804	401 038 0602	MT-GLAZE 220 JA 1/10W
R1805	401 037 6605	MT-GLAZE 120 JA 1/10W
R1806	401 038 2002	MT-GLAZE 270 JA 1/10W
R1824	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R1851	401 038 6307	MT-GLAZE 470 JA 1/10W
R1852	401 038 0800	MT-GLAZE 22K JA 1/10W
R1853	401 038 0800	MT-GLAZE 22K JA 1/10W
R1854	401 038 5003	MT-GLAZE 390 JA 1/10W
R1855	401 038 5003	MT-GLAZE 390 JA 1/10W
R1856	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R1860	401 037 5202	MT-GLAZE 100 JA 1/10W
R1861	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R1862	401 038 2200	MT-GLAZE 27K JA 1/10W
R1863	401 038 6307	MT-GLAZE 470 JA 1/10W
R1865	401 038 5003	MT-GLAZE 390 JA 1/10W
R1866	401 038 0107	MT-GLAZE 2K JA 1/10W
R1867	401 038 2200	MT-GLAZE 27K JA 1/10W
R1868	401 038 6307	MT-GLAZE 470 JA 1/10W
R1869	401 037 5400	MT-GLAZE 1K JA 1/10W
R1874	401 037 9200	MT-GLAZE 1.8K JA 1/10W

LOCATION	PARTS NO.	DESCRIPTION
R1891	401 038 0503	MT-GLAZE 22 JA 1/10W
R1892	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R1894	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R1895	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R1896	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R1897	401 038 6406	MT-GLAZE 4.7K JA 1/10W

AUDIO PRE-AMP. CIRCUIT(AP-A)

LOCATION	PARTS NO.	DESCRIPTION
C2901	403 001 1609	CERAMIC 0.01U K 16V
C2902	403 163 8409	ELECT 47U M 16V
C2903	403 001 1609	CERAMIC 0.01U K 16V
C2904	403 001 1609	CERAMIC 0.01U K 16V
C2905	403 001 1609	CERAMIC 0.01U K 16V
C2906	403 001 1609	CERAMIC 0.01U K 16V
C2907	403 001 1609	CERAMIC 0.01U K 16V
C2908	403 163 7907	ELECT 47U M 6.3V
C2909	403 001 1609	CERAMIC 0.01U K 16V
C2910	403 001 1609	CERAMIC 0.01U K 16V
C2911	403 193 8202	ELECT 0.1U M 50V
C2912	403 001 1609	CERAMIC 0.01U K 16V
C2914	403 001 1609	CERAMIC 0.01U K 16V
C2916	403 193 8202	ELECT 0.1U M 50V
C2917	403 121 9509	CERAMIC 0.1U Z 50V
IC291	409 208 5808	IC UPC2350GS
L2901	613 015 6730	COIL,INDUCTOR 100UHK
L2902	613 015 6730	COIL,INDUCTOR 100UHK
R2901	401 012 5609	CARBON 1K JA 1/4W
R2903	401 016 4707	CARBON 22K JA 1/4W
R2904	401 016 4707	CARBON 22K JA 1/4W
R2907	401 012 3308	CARBON 10 JA 1/4W
R2908	401 012 3308	CARBON 10 JA 1/4W
R2911	401 022 6702	CARBON 75 JA 1/4W

COMPL PCB,AD-2

COMPL.NO. 613 123 6097

LOCATION	PARTS NO.	DESCRIPTION
	613 079 0798	HOLDER,LEVEL METER
	613 108 4254	HOLDER,MIC HEAD PHONE
A2701	613 118 2226	LEVEL METER
C2709	403 189 2405	ELECT 10U M 16V
C2710	403 189 2405	ELECT 10U M 16V
C2711	403 001 1906	CERAMIC 0.01U M 16V
C2712	403 001 1906	CERAMIC 0.01U M 16V
C2713	403 071 6207	CERAMIC 220P K 50V
C2714	403 071 6207	CERAMIC 220P K 50V
JK272	613 091 4071	JACK,HEADPHONE
JK273	613 126 6162	BOARD,TERMINAL
L2701	613 014 1200	COIL,INDUCTOR 100UHJ
L2702	613 014 1200	COIL,INDUCTOR 100UHJ
R2709	401 012 6903	CARBON 10K JA 1/4W
R2710	401 012 6903	CARBON 10K JA 1/4W
R2711	401 012 5609	CARBON 1K JA 1/4W
R2717	401 012 5609	CARBON 1K JA 1/4W
R2718	401 012 5609	CARBON 1K JA 1/4W
R2719	401 022 6702	CARBON 75 JA 1/4W
R2731	401 020 0801	CARBON 470 JA 1/4W
R2732	401 020 0801	CARBON 470 JA 1/4W
RR271	613 103 9490	IR RECEIVER PACK UNIT

LOCATION	PARTS NO.	DESCRIPTION
S2701	613 081 0939	SLIDE SWITCH 2-3,METER
S2702	613 081 0922	SLIDE SWITCH 1-2,NICAM
S2703	613 006 3649	PUSH SWITCH,EJECT
OR	613 079 4130	SW,PUSH,EJECT
OR	613 092 1734	SW,PUSH,EJECT
OR	613 092 0751	SW,PUSH,EJECT
S2704	613 006 3649	PUSH SWITCH,POWER
OR	613 079 4130	SW,PUSH,POWER
OR	613 092 1734	SW,PUSH,POWER
OR	613 092 0751	SW,PUSH,POWER
S2705	613 081 0939	SLIDE SWITCH 2-3,AV INPUT
VR241	613 001 9417	SEMI VR 10KB
OR	613 079 2532	VR,SEMI 10KB
VR242	613 001 9417	SEMI VR 10KB
OR	613 079 2532	VR,SEMI 10KB
VR270	613 108 5442	VR,ROTARY 10KB
VR271	613 108 5435	VR,ROTARY 10KB
VR272	613 108 5442	VR,ROTARY 10KB
VR277	613 108 5442	VR,ROTARY 10KB

COMPL PCB,CP-B

COMPL.NO. 613 127 5249

TUNER CIRCUIT(TN-B)

LOCATION	PARTS NO.	DESCRIPTION
	613 126 7312	FLEXIBLE FLAT CABLES,CN161-CN601
C6001	403 121 9509	CERAMIC 0.1U Z 50V
C6004	403 067 5603	MT-COMPO 0.1U J 50V
OR	403 065 8002	MT-POLYEST 0.1U J 63V
OR	403 168 6103	MT-POLYEST 0.1U J 50V
C6006	403 125 5606	ELECT 100U M 16V
C6007	403 143 2809	CERAMIC 0.047U Z 50V
C6008	403 109 6308	ELECT 1U M 50V
C6009	403 135 7409	ELECT 22U M 50V
C6010	403 121 9509	CERAMIC 0.1U Z 50V
C6011	403 121 3002	ELECT 4.7U M 25V
C6012	403 121 3002	ELECT 4.7U M 25V
C6016	403 125 5606	ELECT 100U M 16V
C6017	403 001 1906	CERAMIC 0.01U M 16V
D6001	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D6003	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D6004	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D6005	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D6006	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D6014	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D6015	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D6016	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
IC601	409 026 8203	IC L5631
OR	409 057 5103	IC UPC574J
IC602	409 148 5005	IC M6M80021P
OR	409 199 5306	IC M6M80011AP
Q6001	405 027 8709	TR 2SK68A-K
OR	405 057 9301	TR 2SK68A-L1
OR	405 040 0605	TR 2SK222-C
OR	405 026 9004	TR 2SK222-D
Q6002	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
Q6002	405 006 1806	TR 2SA933S-T93-R
OR	405 093 0508	TR KSA1175-Y
Q6003	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
OR	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
Q6004	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
OR	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
Q6006	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
OR	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
Q6007	405 003 7603	TR 2SA1345-AC
OR	405 000 2205	TR DTA144ES-DCTP
Q6008	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
R6001	401 018 2701	CARBON 330 JA 1/4W
R6002	401 019 0904	CARBON 390 JA 1/4W
R6003	401 012 9201	CARBON 1M JA 1/4W
R6004	401 012 9201	CARBON 1M JA 1/4W
R6005	401 021 9902	CARBON 620K JA 1/4W
R6006	401 019 3905	CARBON 390K JA 1/4W
R6007	401 021 4907	CARBON 560K JA 1/4W
R6008	401 012 5609	CARBON 1K JA 1/4W
R6010	401 012 8006	CARBON 100K JA 1/4W
R6011	401 012 8006	CARBON 100K JA 1/4W
R6015	401 012 6903	CARBON 10K JA 1/4W
R6016	401 012 6903	CARBON 10K JA 1/4W
R6017	401 023 7807	CARBON 91K JA 1/4W
R6018	401 023 7807	CARBON 91K JA 1/4W
R6019	401 016 3700	CARBON 2.2K JA 1/4W
R6025	401 012 6903	CARBON 10K JA 1/4W
R6026	401 012 8006	CARBON 100K JA 1/4W
R6027	401 012 6903	CARBON 10K JA 1/4W

TIMER CIRCUIT(TM-B)

LOCATION	PARTS NO.	DESCRIPTION
	613 126 7336	FLEXIBLE FLAT CABLES,CN701-CN711
C7001	403 155 2804	DL-ELECT 0.047F Z 5.5V
OR	403 212 9104	DL-ELECT 0.1F Z 5.5V
D7001	407 120 5807	DIODE AK04-V2
R7001	401 012 6903	CARBON 10K JA 1/4W
R7002	401 012 6903	CARBON 10K JA 1/4W
R7003	401 012 6903	CARBON 10K JA 1/4W
R7004	401 012 6903	CARBON 10K JA 1/4W
R7007	401 012 6903	CARBON 10K JA 1/4W
R7018	401 012 5609	CARBON 1K JA 1/4W
R7019	401 012 5609	CARBON 1K JA 1/4W
RB701	613 079 5885	R-NETWORK,10KX5
OR	613 017 2860	RESISTOR PACK

RF CONVERTER CIRCUIT(CV-B)

LOCATION	PARTS NO.	DESCRIPTION
C6601	403 134 8100	ELECT 100U M 6.3V
C6602	403 134 8100	ELECT 100U M 6.3V
L6601	613 014 8667	HF CHOKE 15UH K
OR	613 015 6631	COIL,INDUCTOR 15UHK
L6602	613 014 0739	COIL,INDUCTOR 1.0UHM
OR	613 014 4256	HF CHOKE 1.0UH K

LOCATION	PARTS NO.	DESCRIPTION
R6603	401 016 3700	CARBON 2.2K JA 1/4W
R6604	401 019 1802	CARBON 3.9K JA 1/4W

COMPL PCB,PW-1

COMPL.NO. 613 123 0552

LOCATION	PARTS NO.	DESCRIPTION
⚠	613 041 8326	COVER
C5001 ⚠	404 044 7900	MT-POLYEST 0.22U M 250V
C5002 ⚠	404 044 7009	MT-POLYEST 0.068U M 250V
C5003	404 052 4304	ELECT 62U M 400V
OR	404 053 6505	ELECT 56U M 400V
C5004	403 183 3309	MT-POLYEST 0.047U M 630V
C5005	403 137 5007	CERAMIC 100P K 1K
OR	403 137 5007	CERAMIC 100P K 1K
C5007	403 222 1808	ELECT 1U M 400V
C5008	403 094 0800	OS-SOLID 2.2U M 16V
C5009	403 061 7702	POLYESTER 4700P J 50V
C5010	403 018 6208	CERAMIC 220P J 50V
OR	403 214 9706	CERAMIC 220P J 50V
C5011	403 001 5003	CERAMIC 2200P K 16V
C5012	403 058 9504	POLYESTER 0.018U J 50V
C5013	403 058 9504	POLYESTER 0.018U J 50V
C5020 ⚠	404 034 7507	CERAMIC 2200P M 400V
OR ⚠	404 032 6304	CERAMIC 2200P M 400V
C5021	404 034 7200	CERAMIC 1000P M 400V
OR	404 034 6302	CERAMIC 1000P K 400V
C5022	404 034 7507	CERAMIC 2200P M 400V
OR	404 032 6304	CERAMIC 2200P M 400V
C5023	404 034 7507	CERAMIC 2200P M 400V
OR	404 032 6304	CERAMIC 2200P M 400V
C5101	403 218 2703	ELECT 820U M 16V
C5102	403 160 7207	ELECT 470U M 16V
C5104	403 218 2802	ELECT 820U M 10V
C5105	403 147 9507	ELECT 470U M 6.3V
OR	403 160 2905	ELECT 470U M 6.3V
C5106	403 121 6607	ELECT 47U M 50V
OR	403 154 8302	ELECT 47U M 50V
C5107	403 121 6607	ELECT 47U M 50V
OR	403 154 8302	ELECT 47U M 50V
C5108	403 160 2400	ELECT 330U M 6.3V
OR	403 155 5508	ELECT 330U M 6.3V
C5109	403 004 0500	CERAMIC 0.047U K 25V
C5110	403 168 6103	MT-POLYEST 0.1U J 50V
C5111	403 125 5606	ELECT 100U M 16V
C5114	403 001 1906	CERAMIC 0.01U M 16V
C5115	403 135 4002	ELECT 47U M 6.3V
CN501	613 120 7912	CONNECTOR,INLET
D5001	407 010 9403	DIODE S1WBA60
OR	407 134 8900	DIODE DBC10G
D5003	407 091 6704	DIODE AP01C-V0
D5004	407 078 2705	DIODE 1SS244-T-77
D5005	407 078 2705	DIODE 1SS244-T-77
D5006	407 050 9302	ZENER DIODE GZB18C
D5007	407 078 2705	DIODE 1SS244-T-77
D5008	407 078 2705	DIODE 1SS244-T-77
D5009	407 006 0902	DIODE ERB12-02U14ATP
D5010	407 136 8809	DIODE ERA15-04A-V5
OR	407 004 9808	DIODE DSK10E-BT
D5011	407 097 0300	PHOTO COUPLE PC113A
D5101	407 100 9108	DIODE DLE30C-KC9
D5103	407 144 7108	DIODE ERB81-004L6
D5104	407 100 6909	DIODE AG01-V2
OR	407 091 6902	DIODE ERA38-04-V5
D5105	407 078 2705	DIODE 1SS244-T-77
D5106	407 078 2705	DIODE 1SS244-T-77
D5107	407 100 6909	DIODE AG01-V2

LOCATION	PARTS NO.	DESCRIPTION
D5107	407 091 6902	DIODE ERA38-04-V5
D5108	407 004 9709	DIODE DSK10C-BT
OR	407 005 8701	DIODE ERA15-02-V5
D5109	407 099 5105	ZENER DIODE MTZJ4.7B-T-77
D5110	407 012 4406	DIODE 1SS133-T-77
D5111	407 099 5204	ZENER DIODE MTZJ5.1B-T-77
D5113	407 051 4801	ZENER DIODE GZS2.0X-BT
OR	407 125 9008	ZENER DIODE MTZJ2.0A-T-77
D5114	407 099 6508	ZENER DIODE MTZJ12A-T-77
D5115	407 099 6508	ZENER DIODE MTZJ12A-T-77
F5001 ⚠	423 006 1305	FUSE 250V 2A
IC511	409 067 7203	IC L5431-AA
IC512	409 234 7005	IC SI-3120CA
L5002 ⚠	613 119 1617	COIL,LINE FILTER
L5101	613 017 0354	CORE
L5102	613 110 4198	COIL,INDUCTOR 10UH K
PR511 ⚠	613 000 2327	CIRCUIT PROTECTOR
PR512 ⚠	613 000 2327	CIRCUIT PROTECTOR
Q5001	405 103 4106	TR 2SK1460-YA7
Q5002	405 017 9600	TR 2SC3330-T-AC
Q5003	405 105 0700	TR 2SB1050-R
Q5101	405 088 9103	TR 2SA1703-S-AN
OR	405 108 6907	TR 2SB1322A-R(TA)
OR	405 108 7003	TR 2SB1322A-S(TA)
Q5102	405 107 4102	TR 2SD1994-R (TA)
OR	405 107 4201	TR 2SD1994-S (TA)
OR	405 089 2103	TR 2SC4483-S-AN
Q5103	405 035 6902	TR 2SC3851-O
OR	405 035 7008	TR 2SC3851-Y
Q5104	405 019 1909	TR 2SC536-E-NP-AA
OR	405 019 2708	TR 2SC536-F-NP-AA
R5001	401 001 8000	SOLID 2.7M MA 1/2W
OR	401 001 7904	SOLID 2.7M KA 1/2W
R5002	401 080 0605	WIRE WOUND 2.2 KA 2W
R5003	401 069 4402	OXIDE-MT 68K JA 2W
R5004	401 069 4402	OXIDE-MT 68K JA 2W
R5005	401 090 4709	OXIDE-MT 220K JA 1W
R5006	401 090 1104	CARBON 1M JA 1/2W
R5007	401 009 5001	CARBON 33 JA 1/2W
R5008	401 007 0305	CARBON 100 JA 1/2W
R5009	401 020 2805	CARBON 47K JA 1/4W
R5010	401 012 5609	CARBON 1K JA 1/4W
R5011	401 011 8809	CARBON 1 JA 1/4W
R5012	401 016 1409	CARBON 22 JA 1/4W
R5013	401 012 6903	CARBON 10K JA 1/4W
R5014	401 017 2702	CARBON 27K JA 1/4W
R5015	401 057 5107	OXIDE-MT 0.47 JA 1W
R5101	402 004 0909	FUSIBLE RES 2.7 JA 1/4W
R5102	402 004 1302	FUSIBLE RES 220 JA 1/4W
R5103	401 016 3700	CARBON 2.2K JA 1/4W
R5104	401 015 2605	CARBON 1.8K JA 1/4W
R5105	401 107 6009	MT-FILM 1.6K FD 1/4W
R5106	401 107 1707	MT-FILM 2.2K FD 1/4W
R5107	401 012 4404	CARBON 100 JA 1/4W
R5108	401 014 5102	CARBON 15K JA 1/4W
R5109	401 021 8905	CARBON 6.2K JA 1/4W
R5110	401 016 3700	CARBON 2.2K JA 1/4W
R5111	401 012 5609	CARBON 1K JA 1/4W
R5112	401 016 3700	CARBON 2.2K JA 1/4W
R5113	401 016 3700	CARBON 2.2K JA 1/4W
R5114	401 010 3300	CARBON 470 JA 1/2W
R5115	401 010 3300	CARBON 470 JA 1/2W
R5117	401 013 6308	CARBON 12K JA 1/4W

LOCATION	PARTS NO.	DESCRIPTION
T5001 ⚠	613 126 5172	TRANS,SW
OR ⚠	613 128 3824	TRANS,SW

IF PACK

LOCATION	PARTS NO.	DESCRIPTION
COMPL.NO.	613 103 2736	
C6101	403 028 4409	CERAMIC 56P J 50V
C6102	403 028 4409	CERAMIC 56P J 50V
C6103	403 026 3008	CERAMIC 47P J 50V
C6104	403 069 9500	CERAMIC 0.01U Z 50V
C6105	403 069 9500	CERAMIC 0.01U Z 50V
C6106	403 069 9500	CERAMIC 0.01U Z 50V
C6107	403 069 9500	CERAMIC 0.01U Z 50V
C6109	403 042 3006	ELECT 100U M 16V
C6110	403 069 9500	CERAMIC 0.01U Z 50V
C6111	403 068 0409	CERAMIC 0.1U Z 25V
C6112	403 069 1702	CERAMIC 1000P K 50V
C6113	403 050 0509	ELECT 2.2U M 50V
C6114	403 069 9500	CERAMIC 0.01U Z 50V
C6115	403 018 0701	CERAMIC 22P J 50V
C6116	403 069 9500	CERAMIC 0.01U Z 50V
C6117	403 048 4809	ELECT 0.33U M 50V
C6118	403 069 9500	CERAMIC 0.01U Z 50V
C6119	403 068 0409	CERAMIC 0.1U Z 25V
C6120	403 068 0409	CERAMIC 0.1U Z 25V
C6123	403 069 9500	CERAMIC 0.01U Z 50V
C6124	403 042 3006	ELECT 100U M 16V
C6125	403 068 0409	CERAMIC 0.1U Z 25V
C6130	403 069 9500	CERAMIC 0.01U Z 50V
C6131	403 069 9500	CERAMIC 0.01U Z 50V
C6132	403 010 8606	CERAMIC 12P J 50V
C6133	403 030 7405	CERAMIC 68P J 50V
C6134	403 068 0409	CERAMIC 0.1U Z 25V
C6136	403 014 3409	CERAMIC 18P J 50V
C6137	403 188 1805	CERAMIC 93P H 50V
C6138	403 048 6902	ELECT 0.47U M 50V
C6139	403 022 8403	CERAMIC 33P J 50V
C6140	403 049 0800	ELECT 1U M 50V
C6141	403 010 8705	CERAMIC 12P J 50V
C6142	403 072 5902	CERAMIC 0.027U K 50V
C6144	403 047 0604	ELECT 4.7U M 25V
C6152	403 012 6808	CERAMIC 15P J 50V
C6155	403 069 9500	CERAMIC 0.01U Z 50V
D6101	407 053 8906	ZENER DIODE MTZ9.1C
D6102	407 103 5305	DIODE 1SS318-TT51
IC611	409 036 0105	IC M51366SP
J6107	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
J6111	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6112	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6116	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
L6101	613 014 0654	COIL,INDUCTOR 0.22UHM
L6103	613 014 0746	COIL,INDUCTOR 1.2UHM
L6104	613 014 0807	COIL,INDUCTOR 3.9UHK
L6105	613 014 0913	COIL,INDUCTOR 33UHK
L6106	613 095 2462	TRANS,IF
L6107	613 103 3979	TRANS,IF
L6108	613 014 0852	COIL,INDUCTOR 10UHK
L6109	613 088 8396	TRANS,IF
L6110	613 098 6047	COIL,CHOKE 1.5UH
Q6101	405 090 3304	TR 2SC3838K-ADP-T96
Q6102	405 004 3901	TR 2SA608-E-NP
Q6103	405 015 8407	TR 2SC2812-L5-TB
Q6105	405 015 8407	TR 2SC2812-L5-TB
Q6106	405 015 8407	TR 2SC2812-L5-TB
R6101	402 023 4506	FUSIBLE RES 27 JA 1/2W
R6102	401 037 5400	MT-GLAZE 1K JA 1/10W
R6103	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6104	401 037 5400	MT-GLAZE 1K JA 1/10W
R6105	401 038 0503	MT-GLAZE 22 JA 1/10W
R6106	401 035 4603	MT-GLAZE 100 JA 1/8W
R6107	401 038 0602	MT-GLAZE 220 JA 1/10W
R6109	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R6110	401 038 6604	MT-GLAZE 470K JA 1/10W
R6111	401 037 9309	MT-GLAZE 18K JA 1/10W
R6112	401 038 6604	MT-GLAZE 470K JA 1/10W
R6113	401 038 7809	MT-GLAZE 56K JA 1/10W
R6114	401 038 9209	MT-GLAZE 6.8K JA 1/10W
R6115	401 038 5102	MT-GLAZE 3.9K JA 1/10W
R6116	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6117	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R6118	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R6119	401 038 2101	MT-GLAZE 2.7K JA 1/10W
R6120	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R6121	401 039 0601	MT-GLAZE 820K JA 1/10W
R6122	401 039 0403	MT-GLAZE 8.2K JA 1/10W
R6123	401 038 3504	MT-GLAZE 330 JA 1/10W
R6124	401 039 0403	MT-GLAZE 8.2K JA 1/10W
R6125	401 038 3504	MT-GLAZE 330 JA 1/10W
R6126	401 037 5400	MT-GLAZE 1K JA 1/10W
R6127	401 036 8105	MT-GLAZE 470 JA 1/8W
R6128	401 037 1709	MT-GLAZE 68 JA 1/8W
R6129	401 037 5202	MT-GLAZE 100 JA 1/10W
R6130	401 038 3702	MT-GLAZE 33K JA 1/10W
R6136	401 038 6307	MT-GLAZE 470 JA 1/10W
R6137	401 038 7205	MT-GLAZE 5.1K JA 1/10W
R6138	401 037 5202	MT-GLAZE 100 JA 1/10W
R6139	401 037 5400	MT-GLAZE 1K JA 1/10W
R6140	401 037 5608	MT-GLAZE 10K JA 1/10W
R6141	401 037 5608	MT-GLAZE 10K JA 1/10W
R6142	401 037 5400	MT-GLAZE 1K JA 1/10W
R6144	401 037 5202	MT-GLAZE 100 JA 1/10W
R6145	401 039 0304	MT-GLAZE 820 JA 1/10W
R6146	401 038 6208	MT-GLAZE 47 JA 1/10W
R6147	401 038 6505	MT-GLAZE 47K JA 1/10W
R6148	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R6149	401 038 0602	MT-GLAZE 220 JA 1/10W
R6152	401 037 5400	MT-GLAZE 1K JA 1/10W
R6153	401 038 6307	MT-GLAZE 470 JA 1/10W
R6155	401 038 7601	MT-GLAZE 560 JA 1/10W
R6156	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R6157	401 036 2806	MT-GLAZE 2.7K JA 1/8W
R6159	401 037 5608	MT-GLAZE 10K JA 1/10W
R6160	401 037 5400	MT-GLAZE 1K JA 1/10W
R6166	401 038 0503	MT-GLAZE 22 JA 1/10W
R6167	401 038 0602	MT-GLAZE 220 JA 1/10W
VR611	613 001 8977	SEMI VR 1KB
X6101	421 002 6607	SAW F TSF1336L
X6102	422 000 8907	SAW F SAF32.9MC70Z
X6104	613 084 1667	FILTER
X6106	613 095 3063	FILTER,6.55MHZ
X6108	613 113 9220	FILTER
X6111	613 095 3070	DISCR,CERAMIC

COMPL PCB,TN-5

LOCATION	PARTS NO.	DESCRIPTION
COMPL.NO.	613 123 0866	
C6701	403 069 5601	CERAMIC 0.01U K 50V
C6702	403 038 2006	ELECT 100U M 6.3V
C6703	403 069 5601	CERAMIC 0.01U K 50V
C6704	403 043 9601	ELECT 47U M 16V
C6705	403 041 9405	ELECT 10U M 16V

LOCATION	PARTS NO.	DESCRIPTION
C6706	403 069 5601	CERAMIC 0.01U K 50V
C6707	403 158 5604	NP-ELECT 0.47U M 50V
C6709	403 017 0900	CERAMIC 20P J 50V
C6710	403 018 0503	CERAMIC 22P J 50V
C6711	403 069 5601	CERAMIC 0.01U K 50V
C6712	403 069 5601	CERAMIC 0.01U K 50V
C6713	403 069 5601	CERAMIC 0.01U K 50V
C6714	403 069 5601	CERAMIC 0.01U K 50V
C6715	403 038 2006	ELECT 100U M 6.3V
C6716	403 069 5601	CERAMIC 0.01U K 50V
C6717	403 048 6902	ELECT 0.47U M 50V
C6718	403 068 0409	CERAMIC 0.1U Z 25V
C6719	403 068 0409	CERAMIC 0.1U Z 25V
C6720	403 048 6902	ELECT 0.47U M 50V
C6721	403 069 5601	CERAMIC 0.01U K 50V
C6722	403 028 4102	CERAMIC 56P J 50V
C6726	403 018 0503	CERAMIC 22P J 50V
C6727	403 018 0503	CERAMIC 22P J 50V
C6728	403 069 5601	CERAMIC 0.01U K 50V
C6729	403 038 9708	ELECT 330U M 6.3V
C6730	403 062 8302	POLYESTER 680P J 50V
C6731	403 039 2609	ELECT 47U M 6.3V
C6732	403 087 3801	STYRENE 1200P J 50V
C6733	403 038 6707	ELECT 220U M 6.3V
C6734	403 087 3801	STYRENE 1200P J 50V
C6735	403 038 2006	ELECT 100U M 6.3V
C6736	403 039 2609	ELECT 47U M 6.3V
C6737	403 062 8302	POLYESTER 680P J 50V
C6738	403 041 9405	ELECT 10U M 16V
C6739	403 041 9405	ELECT 10U M 16V
C6740	403 041 9405	ELECT 10U M 16V
C6741	403 041 9405	ELECT 10U M 16V
C6742	403 041 9405	ELECT 10U M 16V
C6743	403 041 9405	ELECT 10U M 16V
C6744	403 043 9601	ELECT 47U M 16V
C6745	403 046 2104	ELECT 3.3U M 25V
C6746	403 046 2104	ELECT 3.3U M 25V
C6747	403 046 2104	ELECT 3.3U M 25V
C6748	403 046 2104	ELECT 3.3U M 25V
C6750	403 028 1606	CERAMIC 56P J 50V
C6751	403 022 8205	CERAMIC 33P J 50V
D6701	407 003 3609	DIODE DAN202K-T-96
OR	407 004 0706	DIODE DCB015-TB
D6702	407 003 3609	DIODE DAN202K-T-96
OR	407 004 0706	DIODE DCB015-TB
D6703	407 003 4507	DIODE DAP202K-T-96
D6704	407 003 3609	DIODE DAN202K-T-96
OR	407 004 0706	DIODE DCB015-TB
D6705	407 003 3609	DIODE DAN202K-T-96
OR	407 004 0706	DIODE DCB015-TB
D6706	407 003 3609	DIODE DAN202K-T-96
OR	407 004 0706	DIODE DCB015-TB
IC671	409 248 5202	IC TB1210F
IC672	409 163 2102	IC TD6710AN
IC673	409 051 3006	IC TC4053BP
IC674	409 018 5203	IC LA6462D
IC675	409 018 5203	IC LA6462D
J6702	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6703	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6704	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6705	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6706	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6707	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6708	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6709	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6710	401 037 5004	MT-GLAZE 0.000 ZA 1/10W

LOCATION	PARTS NO.	DESCRIPTION
J6711	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6712	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6713	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6714	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6715	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
L6701	613 014 0777	COIL,INDUCTOR 2.2UHM
L6702	613 014 0777	COIL,INDUCTOR 2.2UHM
L6703	613 014 0777	COIL,INDUCTOR 2.2UHM
L6704	613 014 0777	COIL,INDUCTOR 2.2UHM
Q6701	405 060 7509	TR FMG2-T98
Q6702	405 060 7202	TR FMA2-T148
Q6703	405 060 7509	TR FMG2-T98
Q6704	405 015 9701	TR 2SC2814-F4-TB
OR	405 078 0400	TR 2SC2413K-T96-P
Q6705	405 058 5401	TR FMC2-T98
Q6706	405 015 8308	TR 2SC2812-L4-TB
OR	405 015 8407	TR 2SC2812-L5-TB
OR	405 014 4400	TR 2SC2412K-T96-Q
OR	405 014 4509	TR 2SC2412K-T96-R
Q6707	405 060 7509	TR FMG2-T98
R6701	401 037 5608	MT-GLAZE 10K JA 1/10W
R6702	401 037 5608	MT-GLAZE 10K JA 1/10W
R6703	401 038 5102	MT-GLAZE 3.9K JA 1/10W
R6704	401 037 5400	MT-GLAZE 1K JA 1/10W
R6705	401 037 5608	MT-GLAZE 10K JA 1/10W
R6706	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R6707	401 037 5202	MT-GLAZE 100 JA 1/10W
R6708	401 038 2002	MT-GLAZE 270 JA 1/10W
R6709	401 039 0205	MT-GLAZE 82 JA 1/10W
R6710	401 038 3702	MT-GLAZE 33K JA 1/10W
R6711	401 038 9001	MT-GLAZE 680 JA 1/10W
R6712	401 038 0602	MT-GLAZE 220 JA 1/10W
R6713	401 038 9001	MT-GLAZE 680 JA 1/10W
R6714	401 037 5608	MT-GLAZE 10K JA 1/10W
R6715	401 038 0909	MT-GLAZE 220K JA 1/10W
R6716	401 038 5300	MT-GLAZE 39K JA 1/10W
R6717	401 038 0107	MT-GLAZE 2K JA 1/10W
R6718	401 038 9308	MT-GLAZE 68K JA 1/10W
R6719	401 038 2101	MT-GLAZE 2.7K JA 1/10W
R6720	401 038 6505	MT-GLAZE 47K JA 1/10W
R6721	401 038 0800	MT-GLAZE 22K JA 1/10W
R6722	401 038 0800	MT-GLAZE 22K JA 1/10W
R6723	401 037 5608	MT-GLAZE 10K JA 1/10W
R6724	401 037 5608	MT-GLAZE 10K JA 1/10W
R6725	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R6726	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R6727	401 037 5400	MT-GLAZE 1K JA 1/10W
R6728	401 038 2200	MT-GLAZE 27K JA 1/10W
R6729	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6730	401 037 5400	MT-GLAZE 1K JA 1/10W
R6731	401 037 5400	MT-GLAZE 1K JA 1/10W
R6732	401 038 2200	MT-GLAZE 27K JA 1/10W
R6733	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6734	401 037 5400	MT-GLAZE 1K JA 1/10W
R6736	401 038 6505	MT-GLAZE 47K JA 1/10W
R6737	401 037 5608	MT-GLAZE 10K JA 1/10W
R6738	401 037 5608	MT-GLAZE 10K JA 1/10W
R6740	401 038 6109	MT-GLAZE 430K JA 1/10W
X6701	613 123 4154	OSC,CRYSTAL 11.648MHZ
X6702	613 084 3227	OSC CRYSTAL,6.552MHZ
X6703	613 084 3258	RESONATOR,CERAMIC 16.93M
XF671	613 084 3173	FILTER,6.552MHZ
XF672	613 123 1481	FILTER,14KHZ

COMPL PCB,TN-7

COMPL.NO. 613 127 8042

LOCATION	PARTS NO.	DESCRIPTION
B6901	405 018 1900	TR 2SC3395-TB
OR	405 029 3504	TR DTC144EK-T96
C6901	403 068 0409	CERAMIC 0.1U Z 25V
OR	403 116 2508	CERAMIC 0.1U Z 25V
C6902	403 189 2405	ELECT 10U M 16V
C6903	403 072 3403	CERAMIC 0.022U Z 50V
C6904	403 193 8400	ELECT 0.22U M 50V
C6921	403 068 0409	CERAMIC 0.1U Z 25V
OR	403 116 2508	CERAMIC 0.1U Z 25V
C6922	403 014 9203	CERAMIC 180P J 50V
C6923	403 069 1702	CERAMIC 1000P K 50V
C6924	403 067 7300	MT-COMPO 0.33U J 50V
OR	403 115 1007	MT-POLYEST 0.33U J 63V
OR	403 168 6202	MT-POLYEST 0.33U J 50V
C6925	403 067 6709	MT-COMPO 0.22U J 50V
OR	403 065 8101	MT-POLYEST 0.22U J 63V
OR	403 184 9805	MT-POLYEST 0.22U J 50V
D6901	407 004 0706	DIODE DCB015-TB
OR	407 003 3609	DIODE DAN202K-T-96
D6902	407 003 5108	DIODE DA204K-T96
J6901	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
Q6901	405 015 8308	TR 2SC2812-L4-TB
OR	405 015 8407	TR 2SC2812-L5-TB
OR	405 014 4400	TR 2SC2412K-T96-Q
OR	405 014 4509	TR 2SC2412K-T96-R
OR	405 015 8704	TR 2SC2812-L6-TB
Q6902	405 030 7201	TR 2SA1338-4-TB
OR	405 030 7300	TR 2SA1338-5-TB
Q6903	405 015 8308	TR 2SC2812-L4-TB
OR	405 015 8407	TR 2SC2812-L5-TB
OR	405 014 4400	TR 2SC2412K-T96-Q
OR	405 014 4509	TR 2SC2412K-T96-R
OR	405 015 8704	TR 2SC2812-L6-TB
Q6921	405 084 8209	TR 2SC2960-F-SPA-AC
OR	405 084 8308	TR 2SC2960-G-SPA-AC
R6901	401 037 5400	MT-GLAZE 1K JA 1/10W
R6902	401 038 3504	MT-GLAZE 330 JA 1/10W
R6903	401 038 8509	MT-GLAZE 620 JA 1/10W
R6904	401 037 5608	MT-GLAZE 10K JA 1/10W
R6905	401 038 3801	MT-GLAZE 330K JA 1/10W
R6906	401 037 5608	MT-GLAZE 10K JA 1/10W
R6907	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R6908	401 039 0205	MT-GLAZE 82 JA 1/10W
R6909	401 037 5400	MT-GLAZE 1K JA 1/10W
R6910	401 038 7106	MT-GLAZE 510 JA 1/10W
R6911	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6912	401 038 5102	MT-GLAZE 3.9K JA 1/10W
R6921	401 038 5102	MT-GLAZE 3.9K JA 1/10W
R6922	401 038 3702	MT-GLAZE 33K JA 1/10W
R6923	401 037 5608	MT-GLAZE 10K JA 1/10W
R6924	401 037 5608	MT-GLAZE 10K JA 1/10W
R6925	401 037 9309	MT-GLAZE 18K JA 1/10W
R6926	401 037 8005	MT-GLAZE 15K JA 1/10W
R6927	401 037 6803	MT-GLAZE 12K JA 1/10W
T6901	613 109 0958	TRANS,IF
OR	613 109 0965	TRANS,IF

COMPL PCB,TM-1

COMPL.NO. 613 123 8305

LOCATION	PARTS NO.	DESCRIPTION
	613 108 4230	HOLDER
A7101	613 113 2672	FLUORESCENT TUBE
C7101	403 021 7308	CERAMIC 3.3P K 50V
C7102	403 014 2501	CERAMIC 18P J 50V
C7103	403 017 0108	CERAMIC 20P J 50V
C7104	403 001 1906	CERAMIC 0.01U M 16V
C7105	403 139 1601	ELECT 22U M 16V
C7106	403 001 1906	CERAMIC 0.01U M 16V
C7107	403 001 1906	CERAMIC 0.01U M 16V
C7108	403 139 1502	ELECT 10U M 16V
C7111	403 121 9509	CERAMIC 0.1U Z 50V
C7113	403 139 1502	ELECT 10U M 16V
D7103	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7104	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7106	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7107	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7108	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7110	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7116	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7118	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7121	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7123	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7125	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7126	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7129	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
IC711	409 257 4500	IC M50959-360SP
IC712	409 032 3308	IC MN1280-L
OR	409 243 4101	IC MN1380-L
Q7101	405 063 9609	TR DTA114EL-TL2
R7101	401 012 9201	CARBON 1M JA 1/4W
R7102	401 110 6201	CARBON 10M JA 1/4W
R7103	401 018 5702	CARBON 330K JA 1/4W
R7104	401 012 5609	CARBON 1K JA 1/4W
R7106	401 012 5609	CARBON 1K JA 1/4W
R7108	401 012 5609	CARBON 1K JA 1/4W
R7110	401 012 5609	CARBON 1K JA 1/4W
R7116	401 016 4707	CARBON 22K JA 1/4W
R7117	401 012 6903	CARBON 10K JA 1/4W
R7122	401 012 5609	CARBON 1K JA 1/4W
R7123	401 012 5609	CARBON 1K JA 1/4W
R7124	401 014 4006	CARBON 1.5K JA 1/4W
RB711	613 079 5878	R-NETWORK,10KX4
OR	613 017 2853	RESISTOR PACK 10K X4 J
S7101	613 077 4354	PUSH SWITCH,REW
OR	613 079 4154	SW,PUSH,REW

LOCATION	PARTS NO.	DESCRIPTION
S7101	613 092 0744	SW,PUSH,REW
OR	613 092 0768	SW,PUSH,REW
S7102	613 006 3649	PUSH SWITCH,PLAY
OR	613 079 4130	SW,PUSH,PLAY
OR	613 092 1734	SW,PUSH,PLAY
OR	613 092 0751	SW,PUSH,PLAY
S7103	613 077 4354	PUSH SWITCH,REC
OR	613 079 4154	SW,PUSH,REC
OR	613 092 0744	SW,PUSH,REC
OR	613 092 0768	SW,PUSH,REC
S7105	613 077 4354	PUSH SWITCH,FF
OR	613 079 4154	SW,PUSH,FF
OR	613 092 0744	SW,PUSH,FF
OR	613 092 0768	SW,PUSH,FF
S7106	613 006 3649	PUSH SWITCH,STOP
OR	613 079 4130	SW,PUSH,STOP
OR	613 092 1734	SW,PUSH,STOP
OR	613 092 0751	SW,PUSH,STOP
S7107	613 077 4354	PUSH SWITCH,PAUSE
OR	613 079 4154	SW,PUSH,PAUSE
OR	613 092 0744	SW,PUSH,PAUSE
OR	613 092 0768	SW,PUSH,PAUSE
S7115	613 077 4354	PUSH SWITCH,PRESET
OR	613 079 4154	SW,PUSH,PRESET
OR	613 092 0744	SW,PUSH,PRESET
OR	613 092 0768	SW,PUSH,PRESET
S7117	613 077 4354	PUSH SWITCH,CH UP
OR	613 079 4154	SW,PUSH,CH UP
OR	613 092 0744	SW,PUSH,CH UP
OR	613 092 0768	SW,PUSH,CH UP
S7118	613 077 4354	PUSH SWITCH,CH DOWN
OR	613 079 4154	SW,PUSH,CH DOWN
OR	613 092 0744	SW,PUSH,CH DOWN
OR	613 092 0768	SW,PUSH,CH DOWN
S7119	613 077 4354	PUSH SWITCH,OK
OR	613 079 4154	SW,PUSH,OK
OR	613 092 0744	SW,PUSH,OK
OR	613 092 0768	SW,PUSH,OK
S7121	613 077 4354	PUSH SWITCH,TR+/FT+
OR	613 079 4154	SW,PUSH,TR+/FT+
OR	613 092 0744	SW,PUSH,TR+/FT+
OR	613 092 0768	SW,PUSH,TR+/FT+
S7122	613 077 4354	PUSH SWITCH,TR+/FT-
OR	613 079 4154	SW,PUSH,TR+/FT-
OR	613 092 0744	SW,PUSH,TR+/FT-
OR	613 092 0768	SW,PUSH,TR+/FT-
S7130	613 077 4354	PUSH SWITCH,SUMMER TIME
OR	613 079 4154	SW,PUSH,SUMMER TIME
OR	613 092 0744	SW,PUSH,SUMMER TIME
OR	613 092 0768	SW,PUSH,SUMMER TIME
S7137	613 077 4354	PUSH SWITCH,AC
OR	613 079 4154	SW,PUSH,AC
OR	613 092 0744	SW,PUSH,AC
OR	613 092 0768	SW,PUSH,AC
X7101	613 122 1444	RESONATOR,CERAMIC 6.0MHZ
OR	613 124 2135	RESONATOR,CERAMIC 6MHZ
OR	613 089 4069	RESONATOR,CERAMIC 6MHZ
OR	613 108 9570	RESONATOR,CERAMIC 6MHZ
X7102	613 109 0972	OSC,CRYSTAL 32KHZ

COMPL PCB,TM-5

COMPL.NO. 613 120 7660

LOCATION	PARTS NO.	DESCRIPTION
C7501	403 068 0409	CERAMIC 0.1U Z 25V
C7502	403 139 0703	ELECT 100U M 6.3V
C7504	403 139 3001	ELECT 3.3U M 50V
C7505	403 022 8304	CERAMIC 33P J 50V
C7506	403 022 8304	CERAMIC 33P J 50V
C7509	403 068 0409	CERAMIC 0.1U Z 25V
C7510	403 069 5601	CERAMIC 0.01U K 50V
C7511	403 008 7505	CERAMIC 10P D 50V
C7512	403 010 8606	CERAMIC 12P J 50V
C7513	403 118 0106	NP-ELECT 10U M 16V
C7514	403 026 2803	CERAMIC 47P J 50V
C7515	403 026 2803	CERAMIC 47P J 50V
C7517	403 008 7406	CERAMIC 10P D 50V
D7501	407 004 0201	DIODE DCA015-TB
OR	407 003 4507	DIODE DAP202K-T-96
IC751	409 238 3300	IC M50556-001SP
L7501	613 015 6105	COIL,INDUCTOR 15UHJ
OR	613 014 8155	HF CHOKE 15UH J
L7502	613 015 6129	COIL,INDUCTOR 22UHJ
OR	613 014 8179	HF CHOKE 22UH J
Q7501	405 002 6508	TR 2SA1179-M5-TB
OR	405 002 6706	TR 2SA1179-M6-TB
Q7502	405 000 2908	TR DTC114EK-T96
OR	405 018 2402	TR 2SC3398-TB
R7501	401 037 5400	MT-GLAZE 1K JA 1/10W
R7502	401 038 9209	MT-GLAZE 6.8K JA 1/10W
R7503	401 037 5400	MT-GLAZE 1K JA 1/10W
R7504	401 037 8609	MT-GLAZE 1.6K JA 1/10W
R7505	401 037 5400	MT-GLAZE 1K JA 1/10W
R7506	401 038 9704	MT-GLAZE 7.5K JA 1/10W
R7507	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R7508	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R7509	401 037 5608	MT-GLAZE 10K JA 1/10W
R7510	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R7513	401 037 5707	MT-GLAZE 100K JA 1/10W
R7514	401 037 5806	MT-GLAZE 1M JA 1/10W
R7515	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R7520	401 037 5400	MT-GLAZE 1K JA 1/10W
X7501	613 002 8709	CRYSTAL 17.734475MHZ
OR	613 127 1555	OSC,CRYSTAL 17.734475MHZ

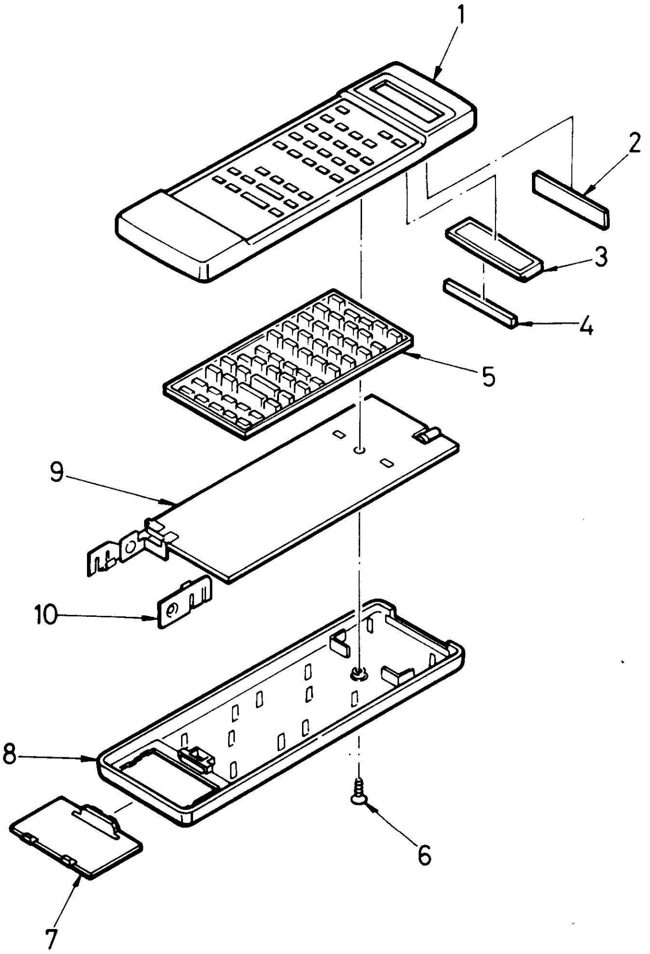
COMPL PCB,TB-1

COMPL.NO. 613 123 5243

LOCATION	PARTS NO.	DESCRIPTION
C8502	403 071 6207	CERAMIC 220P K 50V
C8503	403 071 6207	CERAMIC 220P K 50V
C8504	403 071 6207	CERAMIC 220P K 50V
C8505	403 191 8600	ELECT 4.7U M 25V
C8506	403 069 1207	CERAMIC 1000P K 50V
C8508	403 069 1207	CERAMIC 1000P K 50V
C8509	403 191 8600	ELECT 4.7U M 25V
C8510	403 191 8600	ELECT 4.7U M 25V
C8511	403 191 8808	ELECT 2.2U M 50V
C8512	403 071 6207	CERAMIC 220P K 50V
C8513	403 071 6207	CERAMIC 220P K 50V
C8522	403 071 6207	CERAMIC 220P K 50V
C8523	403 071 6207	CERAMIC 220P K 50V
C8524	403 071 6207	CERAMIC 220P K 50V
C8525	403 191 8600	ELECT 4.7U M 25V
C8526	403 069 1207	CERAMIC 1000P K 50V
C8528	403 069 1207	CERAMIC 1000P K 50V
C8529	403 191 8600	ELECT 4.7U M 25V
C8530	403 191 8600	ELECT 4.7U M 25V
C8531	403 191 8808	ELECT 2.2U M 50V
C8532	403 071 6207	CERAMIC 220P K 50V
C8533	403 071 6207	CERAMIC 220P K 50V
C8541	403 193 7601	ELECT 220U M 6.3V
C8551	403 189 2405	ELECT 10U M 16V

LOCATION	PARTS NO.	DESCRIPTION
C8552	403 139 1502	ELECT 10U M 16V
C8553	403 139 1502	ELECT 10U M 16V
C8554	403 163 7907	ELECT 47U M 6.3V
C8555	403 001 1609	CERAMIC 0.01U K 16V
CN853	613 105 6633	SOCKET,21P
CN854	613 105 6640	SOCKET,21P
D8505	407 070 7104	ZENER DIODE GZS5.6X-BT
OR	407 053 6704	ZENER DIODE MTZ5.6B-T-77
D8506	407 070 7104	ZENER DIODE GZS5.6X-BT
OR	407 053 6704	ZENER DIODE MTZ5.6B-T-77
D8507	407 070 7104	ZENER DIODE GZS5.6X-BT
OR	407 053 6704	ZENER DIODE MTZ5.6B-T-77
IC851	409 051 2801	IC TC4052BP
IC852	409 120 3401	IC LA7221
OR	409 003 4501	IC BA7021
JK851	613 009 1529	SOCKET
JK852	613 085 8092	SOCKET
JK853	613 009 1529	SOCKET
JK854	613 085 8092	SOCKET
Q8502	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
Q8503	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
R8501	401 012 5609	CARBON 1K JA 1/4W
R8502	401 012 5609	CARBON 1K JA 1/4W
R8503	401 022 1806	CARBON 680 JA 1/4W
R8504	401 022 1806	CARBON 680 JA 1/4W
R8505	401 016 5704	CARBON 220K JA 1/4W
R8508	401 012 5609	CARBON 1K JA 1/4W
R8521	401 012 5609	CARBON 1K JA 1/4W
R8522	401 012 5609	CARBON 1K JA 1/4W
R8523	401 022 1806	CARBON 680 JA 1/4W
R8524	401 022 1806	CARBON 680 JA 1/4W
R8525	401 016 5704	CARBON 220K JA 1/4W
R8528	401 012 5609	CARBON 1K JA 1/4W
R8541	401 020 1907	CARBON 4.7K JA 1/4W
R8542	401 020 1907	CARBON 4.7K JA 1/4W
R8543	401 016 4707	CARBON 22K JA 1/4W
R8544	401 016 4707	CARBON 22K JA 1/4W
R8545	401 012 5609	CARBON 1K JA 1/4W
R8547	401 012 5609	CARBON 1K JA 1/4W
R8551	401 022 6702	CARBON 75 JA 1/4W
R8553	401 022 6702	CARBON 75 JA 1/4W
R8554	401 012 5609	CARBON 1K JA 1/4W
R8555	401 012 5609	CARBON 1K JA 1/4W
RB851	613 085 3110	R-NETWORK,100KX5
RB852	613 085 3110	R-NETWORK,100KX5

LOCATION	PARTS NO.	DESCRIPTION
REMOCON		
COMPL.NO.	613 124 3125	
1	613 124 3415	ASSY,CABINET,TOP
2	613 122 5305	WINDOW
3	613 123 1979	LCD
4	613 123 1931	CONNECTOR
5	613 124 3514	BUTTON
6	411 101 7308	SCR S-TPG FLT 2.6X10
7	613 122 5220	LID,BATTERY
8	613 122 5213	CABINET,BOTTOM
9	613 122 4940	COMPL PCB,RM-1
10	613 123 1962	TERMINAL,BATTERY



LOCATION	PARTS NO.	DESCRIPTION
COMPL PCB,RM-1		
COMPL.NO.	613 122 4940	
	613 123 1948	TERMINAL,BATTERY,+
	613 123 1955	TERMINAL,BATTERY,-
	613 123 1900	SPACER
C1	403 068 0409	CERAMIC 0.1U Z 25V
C2	403 152 9707	ELECT 22U M 6.3V
C3	403 009 9300	CERAMIC 100P K 50V
C4	403 009 9300	CERAMIC 100P K 50V
C5	403 068 0409	CERAMIC 0.1U Z 25V
C6	403 068 0409	CERAMIC 0.1U Z 25V
C7	403 153 0802	ELECT 220U M 4V
IC1	409 245 3003	IC LC5872-S-1275
OR	409 246 8205	IC LC5872-S-1300
J1	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
LED1	407 040 3709	LED SLR-932A
Q1	405 021 2406	TR 2SD1048-X7-TB
OR	405 021 2505	TR 2SD1048-X8-TB
R1	401 035 4603	MT-GLAZE 100 JA 1/8W
R2	401 169 5200	MT-GLAZE 2.2 JA 1/4W
R3	401 035 4603	MT-GLAZE 100 JA 1/8W
R4	401 037 5806	MT-GLAZE 1M JA 1/10W
R5	401 039 0601	MT-GLAZE 820K JA 1/10W
X1	613 123 2020	RESONATOR,CERAMIC1.216MHZ

SANYO

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VHR-190E

BLOCK DIAGRAMS, CIRCUIT DIAGRAMS & PRINTED CIRCUIT BOARDS

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IC301 SYSTEM CONTROL & DIGITAL SERVO MPU PIN FUNCTIONS TABLE 57
IC711 (M50959) TIMER MPU PIN FUNCTIONS TABLE 58

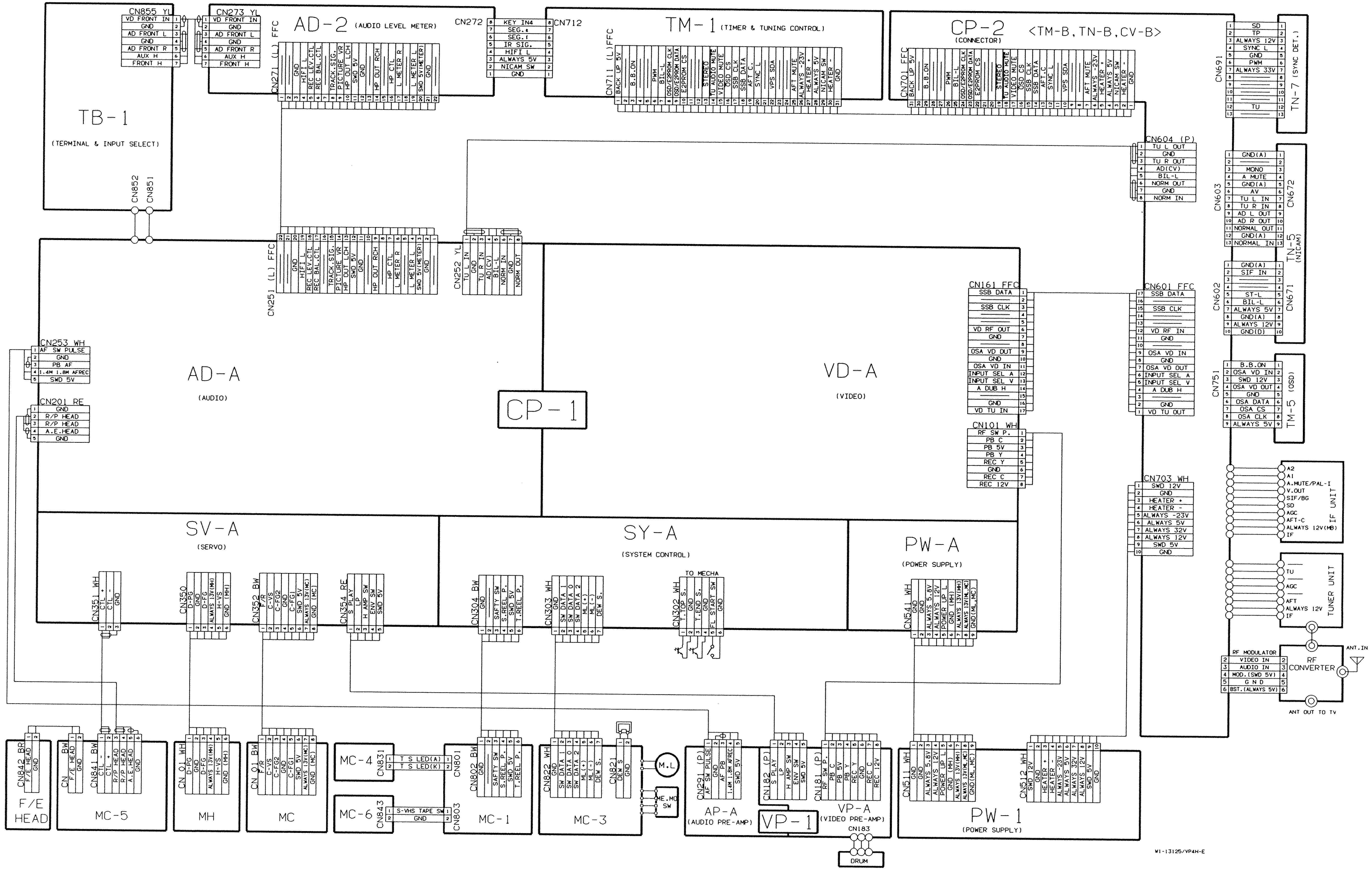
NOTES:

1. All resistance values in "OHMS" unless otherwise noted. (K = 1,000 M = 1,000,000)
2. All capacitance values in "μfd" unless otherwise noted.
   p = pico farad
3. All inductance values in "mH" unless otherwise noted. μ = micro henry.

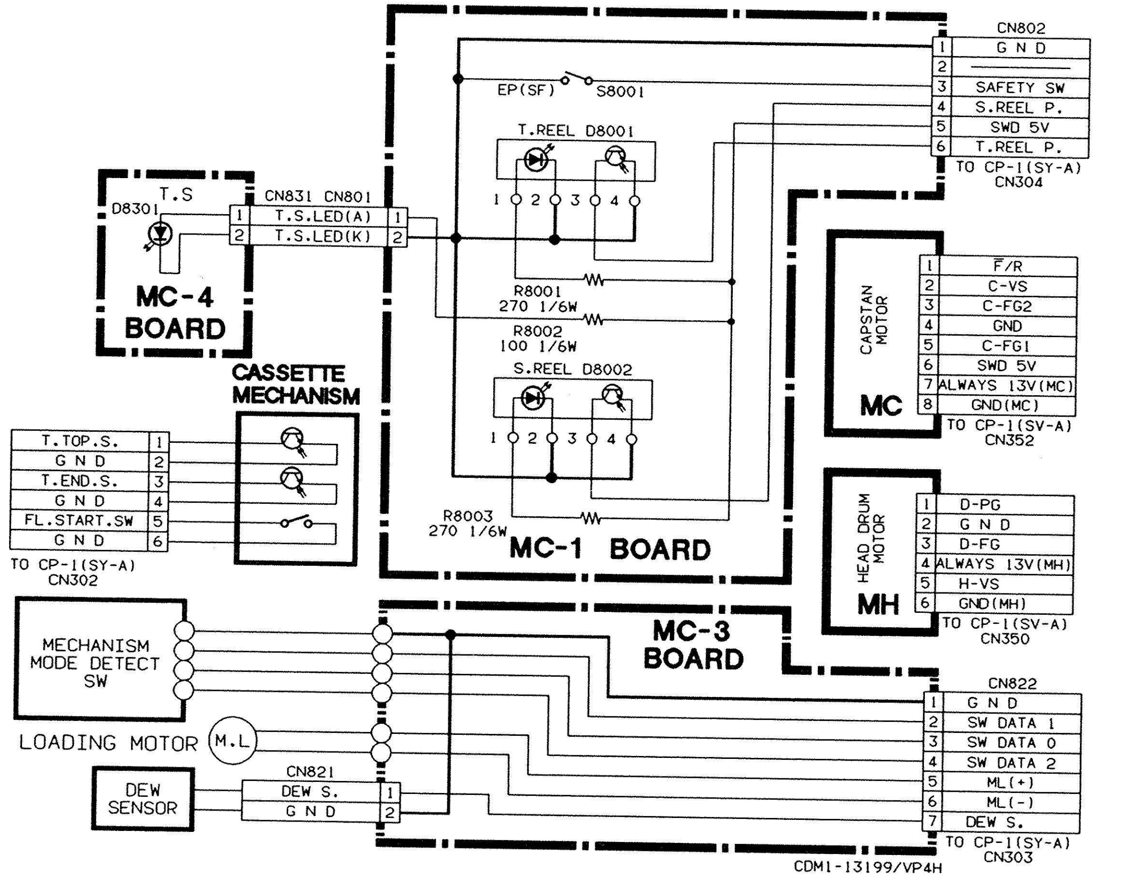
PRODUCT SAFETY NOTICE

THE COMPONENTS DESIGNATED BY A SYMBOL (⚠) IN THIS SCHEMATIC DIAGRAM DESIGNATES COMPONENTS WHOSE VALUE ARE OF SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. SHOULD ANY COMPONENT DESIGNATED BY A SYMBOL NEED TO BE REPLACED, USE ONLY THE PART DESIGNATED IN THE PARTS LIST. DO NOT DEVIATE FROM THE RESISTNACE, WATTAGE AND VOLTAGE RATINGS SHOWN.

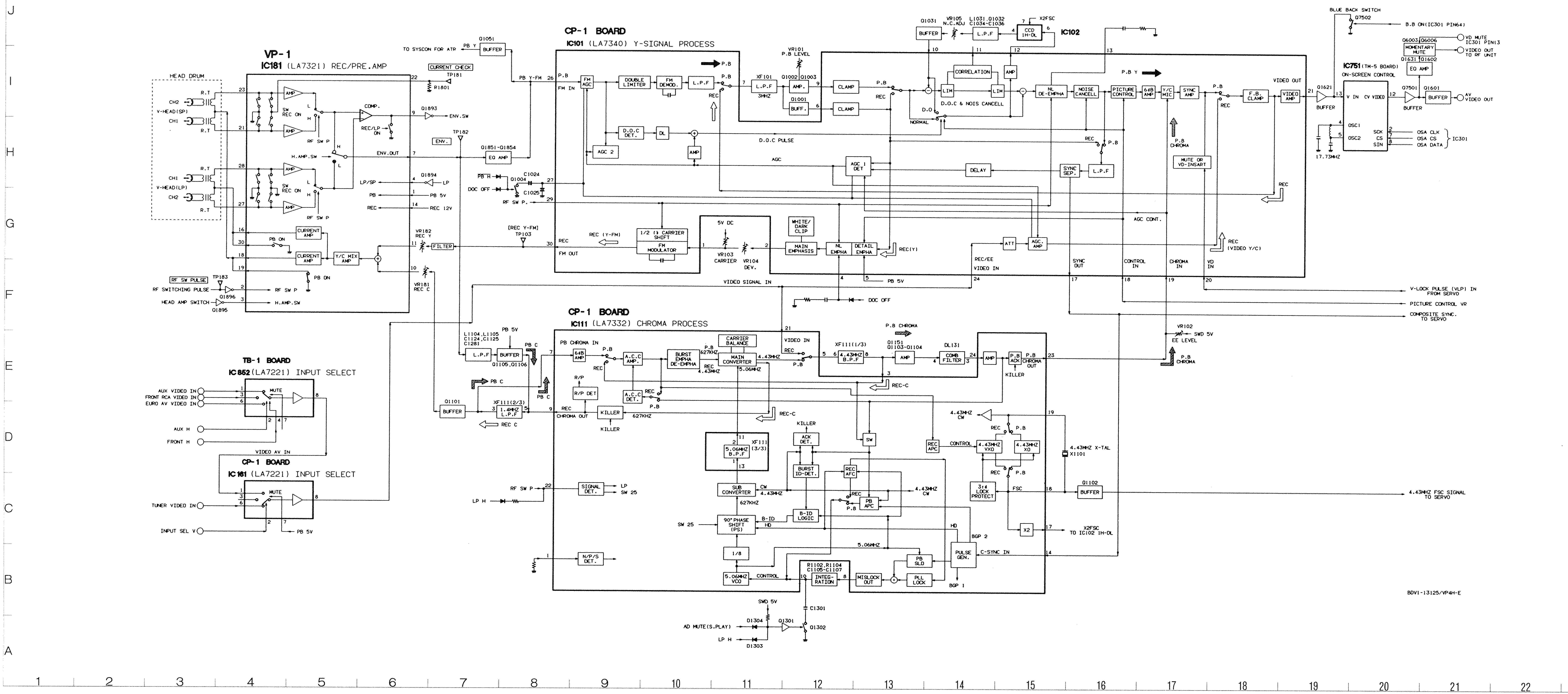
OVERALL WIRING DIAGRAM


TB-1
(TERMINAL & INPUT SELECT)
CN855 YL
CN273 YL
CN852
CN851
AD-2 (AUDIO LEVEL METER)
CN272
CN271 (L) FFC
CN712
TM-1 (TIMER & TUNING CONTROL)
CN711 (L) FFC
CP-2 (CONNECTOR) <TM-B, TN-B, CV-B>
CN701 FFC
CN691
TN-7 (SYNC DET.)
CN604 (P)
CN603
CN672
TN-5 (NICAM)
CN602
CN671
CN601 FFC
CN751
TM-5 (OSD)
CN703 WH
IF UNIT
TUNER UNIT
RF MODULATOR
RF CONVERTER
ANT.IN
ANT OUT TO TV
CN251 (L) FFC
CN252 YL
CN253 WH
CN201 RE
AD-A (AUDIO)
CP-1
VD-A (VIDEO)
CN161 FFC
CN101 WH
SV-A (SERVO)
SY-A (SYSTEM CONTROL)
PW-A (POWER SUPPLY)
CN351 WH
CN350
CN352 BW
CN354 RE
CN304 BW
CN303 WH
CN302 WH
TO MECHA
CN541 WH
F/E HEAD
CN842 BR
MC-5
CN841 BW
MH
MC
MC-4
CN831
CN801
MC-6
CN843
CN803
MC-1
CN802 BW
MC-3
CN822 WH
CN821
M.L
ME.MO SW
AP-A (AUDIO PRE-AMP)
CN291 (P)
VP-1
CN182 (P)
CN181 (P)
VP-A (VIDEO PRE-AMP)
CN183
DRUM
PW-1 (POWER SUPPLY)
CN511 WH
CN512 WH
WI-13125/VP4H-E

MECHANISM CONNECTION CIRCUIT DIAGRAM

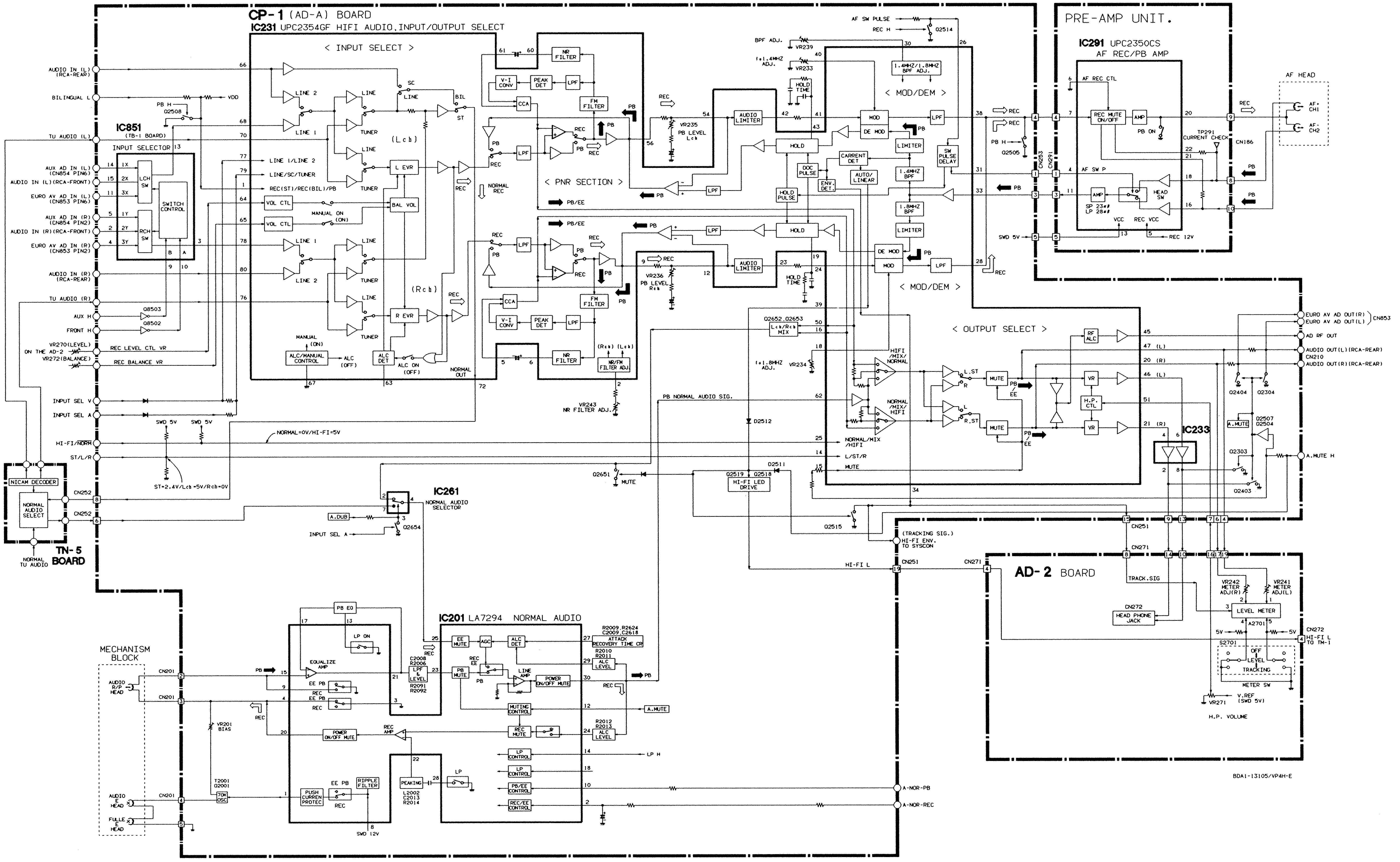

CN802
1 GND
2 ——
3 SAFETY SW
4 S.REEL P.
5 SWD 5V
6 T.REEL P.
TO CP-1(SY-A) CN304
EP(SF)
S8001
T.REEL D8001
S.REEL D8002
R8001 270 1/6W
R8002 100 1/6W
R8003 270 1/6W
MC-1 BOARD
T.S
D8301
MC-4 BOARD
CN831 CN801
1 T.S.LED(A) 1
2 T.S.LED(K) 2
CASSETTE MECHANISM
T.TOP.S. 1
GND 2
T.END.S. 3
GND 4
FL.START.SW 5
GND 6
TO CP-1(SY-A) CN302
CAPSTAN MOTOR
MC
1 F/R
2 C-VS
3 C-FG2
4 GND
5 C-FG1
6 SWD 5V
7 ALWAYS 13V(MC)
8 GND(MC)
TO CP-1(SV-A) CN352
HEAD DRUM MOTOR
MH
1 D-PG
2 GND
3 D-FG
4 ALWAYS 13V(MH)
5 H-VS
6 GND(MH)
TO CP-1(SV-A) CN350
MECHANISM MODE DETECT SW
LOADING MOTOR
M.L
MC-3 BOARD
DEW SENSOR
CN821
DEW S. 1
GND 2
CN822
1 GND
2 SW DATA 1
3 SW DATA 0
4 SW DATA 2
5 ML(+)
6 ML(-)
7 DEW S.
TO CP-1(SY-A) CN303
CDM1-13199/VP4H

VIDEO CIRCUIT BASIC BLOCK DIAGRAM

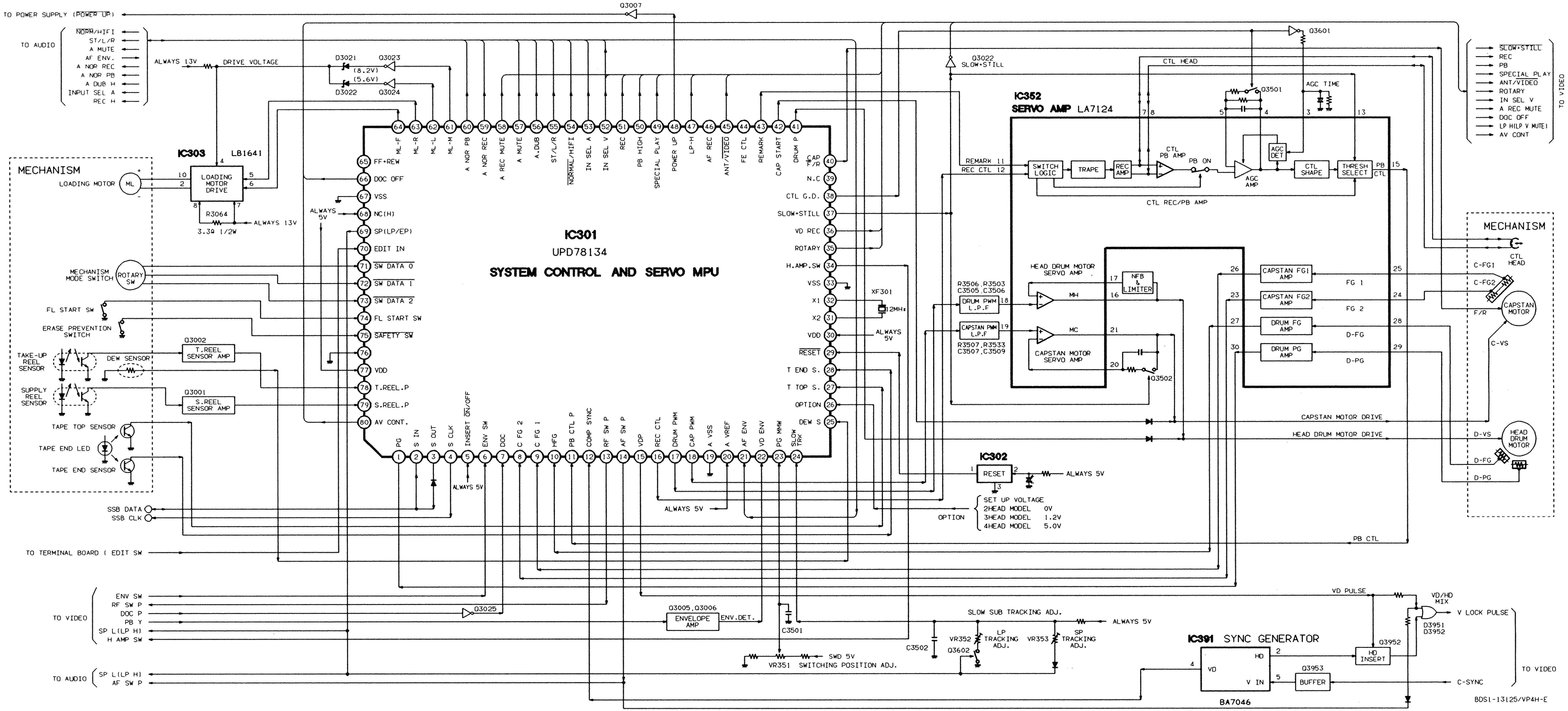


VP-1
IC181 (LA7321) REC/PRE.AMP
HEAD DRUM
CH2
V-HEAD(SP)
CH1
R.T
V-HEAD(LP)
AMP
SW REC ON
RF SW P
COMP.
REC/LP ON
H.AMP.SW
ENV.OUT
LP/SP
PB
REC
CURRENT AMP
PB ON
Y/C MIX AMP
RF SW PULSE
TP183
RF SWITCHING PULSE
HEAD AMP SWITCH
Q1896
Q1895
RF SW P
H.AMP.SW
Q1893
ENV.SW
Q1894
LP
PB 5V
REC 12V
CURRENT CHECK
TP181
R1801
TP182
ENV.
VR182 REC Y
FILTER
VR181 REC C
TO SYSCON FOR ATR
PB Y
Q1051
BUFFER
PB Y-FM
Q1851-Q1854
EQ AMP
PB H
DOC OFF
Q1004
C1024
C1025
RF SW P.
[REC Y-FM]
TP103
CP-1 BOARD
IC101 (LA7340) Y-SIGNAL PROCESS
P.B
FM IN
FM AGC
DOUBLE LIMITER
FM DEMOD.
L.P.F
D.O.C DET.
DL
AMP
AGC 2
D.O.C PULSE
AGC
AGC 1 DET
REC (Y-FM)
1/2 (f) CARRIER SHIFT
FM MODULATOR
FM OUT
5V DC
VR103 CARRIER
VR104 DEV.
WHITE/DARK CLIP
MAIN EMPHASIS
NL EMPHA
DETAIL EMPHA
REC(Y)
DOC OFF
VIDEO SIGNAL IN
XF101
3MHZ
VR101 P.B LEVEL
Q1002 Q1003
AMP.
Q1001
BUFF.
CLAMP
Q1031
VR105 N.C.ADJ
L1031,Q1032 C1034-C1036
X2FSC
CCD 1H-DL
IC102
CORRELATION
LIM
D.O.C & NOIS CANCELL
D.O
NORMAL
NL DE-EMPHA
NOISE CANCELL
PICTURE CONTROL
64B AMP
Y/C MIC
SYNC AMP
F.B. CLAMP
VIDEO AMP
VIDEO OUT
P.B Y
P.B CHROMA
MUTE OR VD-INSART
DELAY
SYNC SEP.
AGC CONT.
ATT
AGC AMP
REC/EE VIDEO IN
SYNC OUT
CONTROL IN
CHROMA IN
VD IN
REC (VIDEO Y/C)
V-LOCK PULSE (VLP) IN FROM SERVO
PICTURE CONTROL VR
COMPOSITE SYNC. TO SERVO
BLUE BACK SWITCH
Q7502
B.B ON(IC301 PIN64)
Q6003 Q6006
MOMENTARY MUTE
VD MUTE IC301 PIN13
VIDEO OUT TO RF UNIT
Q1631 Q1602
EQ AMP
IC751 (TM-5 BOARD) ON-SCREEN CONTROL
Q1621
BUFFER
V IN
CV VIDEO
OSC1
OSC2
SCK
CS
SIN
OSA CLK
OSA CS
OSA DATA
IC301
17.73MHZ
Q7501 Q1601
AV VIDEO OUT
VR102
SWD 5V
EE LEVEL
CP-1 BOARD
IC111 (LA7332) CHROMA PROCESS
PB CHROMA IN
64B AMP
A.C.C AMP.
A.C.C DET.
R/P
R/P DET
BURST EMPHA DE-EMPHA
CARRIER BALANCE
MAIN CONVERTER
627KHZ
4.43MHZ
5.06MHZ
VIDEO IN
XF111(1/3)
4.43MHZ B.P.F
Q1151 Q1103-Q1104
DL131
COMB FILTER
P.B ACK
CHROMA OUT
KILLER
REC-C
L1104,L1105 C1124,C1125 C1281
L.P.F
BUFFER
Q1105,Q1106
PB C
Q1101
XF111(2/3)
1.4MHZ L.P.F
REC C
CHROMA OUT
KILLER
XF111 (3/3)
5.06MHZ B.P.F
ACK DET.
SW
REC APC
CONTROL
4.43MHZ VXO
4.43MHZ XO
4.43MHZ CW
4.43MHZ X-TAL
X1101
BURST ID-DET.
REC AFC
PB APC
3:4 LOCK PROTECT
FSC
Q1102
BUFFER
4.43MHZ FSC SIGNAL TO SERVO
X2
X2FSC TO IC102 1H-DL
RF SW P
SIGNAL DET.
LP
SW 25
LP H
SUB CONVERTER
CW
90° PHASE SHIFT (PS)
B-ID
HD
B-ID LOGIC
BGP 2
PULSE GEN.
C-SYNC IN
1/8
PB SLD
PLL LOCK
N/P/S DET.
5.06MHZ VCO
R1102,R1104 C1105-C1107
INTEG-RATION
MISLOCK OUT
BGP 1
SWD 5V
C1301
Q1301
AD MUTE(S.PLAY)
D1304
D1303
Q1302
TB-1 BOARD
IC852 (LA7221) INPUT SELECT
AUX VIDEO IN
FRONT RCA VIDEO IN
EURO AV VIDEO IN
MUTE
AUX H
FRONT H
VIDEO AV IN
CP-1 BOARD
IC161 (LA7221) INPUT SELECT
TUNER VIDEO IN
INPUT SEL V
PB 5V
BDV1-13125/VP4H-E
K J I H G F E D C B A
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

AUDIO CIRCUIT BASIC BLOCK DIAGRAM

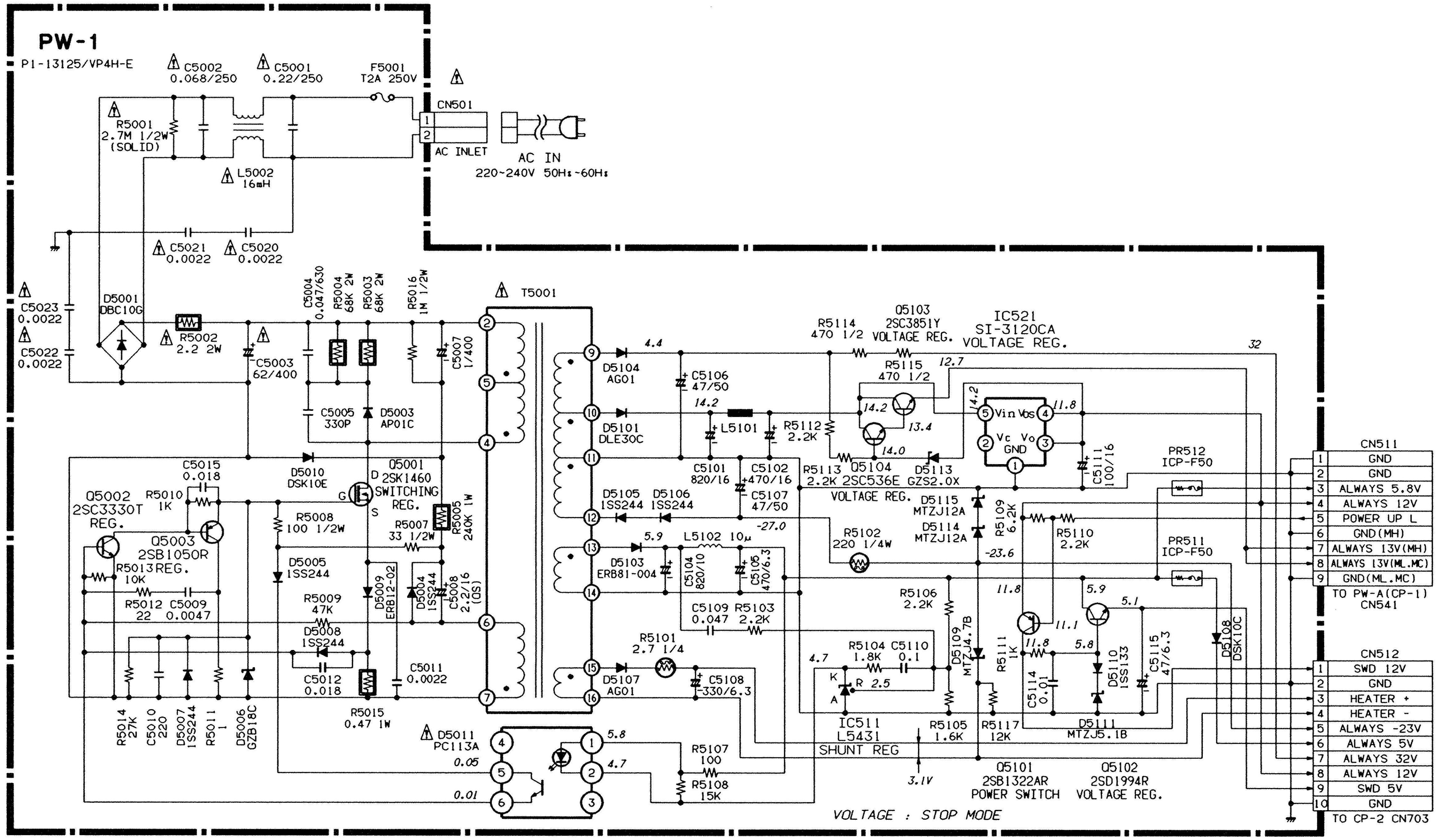

CP-1 (AD-A) BOARD
IC231 UPC2354GF HIFI AUDIO,INPUT/OUTPUT SELECT
< INPUT SELECT >
IC851 (TB-1 BOARD) INPUT SELECTOR
SWITCH CONTROL
LCH SW
RCH SW
AUDIO IN (L) (RCA-REAR)
BILINGUAL L
TU AUDIO (L)
AUX AD IN (L) (CN854 PIN6)
AUDIO IN (L)(RCA-FRONT)
EURO AV AD IN (L) (CN853 PIN6)
AUX AD IN (R) (CN854 PIN2)
AUDIO IN (R)(RCA-FRONT)
EURO AV AD IN (R) (CN853 PIN2)
AUDIO IN (R) (RCA-REAR)
TU AUDIO (R)
AUX H
FRONT H
VR270(LEVEL) ON THE AD-2 VR272(BALANCE)
REC LEVEL CTL VR
REC BALANCE VR
INPUT SEL V
INPUT SEL A
HI-FI/NORM
ST/L/R
NORMAL=0V/HI-FI=5V
ST=2.4V/Lch=5V/Rch=0V
SWD 5V
LINE 1/LINE 2
LINE/SC/TUNER
REC(ST)/REC(BIL)/PB
VOL CTL
MANUAL ON (ON)
BAL VOL
L EVR
R EVR
(Lch)
(Rch)
LINE 1
LINE 2
TUNER
ALC/MANUAL CONTROL
ALC DET
ALC (OFF)
ALC ON (OFF)
NORMAL OUT
NORMAL REC
NR FILTER
V-I CONV
PEAK DET
LPF
FM FILTER
CCA
< PNR SECTION >
PB/EE
VR235 PB LEVEL Lch
VR236 PB LEVEL Rch
AUDIO LIMITER
NR/FM FILTER ADJ
VR243 NR FILTER ADJ.
BPF ADJ. VR239
f=1.4MHZ ADJ. VR233
HOLD TIME
AF SW PULSE
REC H
Q2514
1.4MHZ/1.8MHZ BPF ADJ.
< MOD/DEM >
MOD
DE MOD
LIMITER
HOLD
DOC PULSE
HOLD PULSE
CURRENT DET
AUTO/LINEAR
ENV. DET.
SW PULSE DELAY
1.4MHZ BPF
1.8MHZ BPF
Q2652,Q2653
Lch/Rch MIX
f=1.8MHZ ADJ. VR234
< OUTPUT SELECT >
HIFI /MIX/ NORMAL
NORMAL /MIX/ HIFI
MUTE
RF ALC
VR
H.P. CTL
PB NORMAL AUDIO SIG.
NORMAL/MIX /HIFI
L/ST/R
D2512
D2511
Q2519, Q2518 HI-FI LED DRIVE
Q2651 MUTE
IC233
EURO AV AD OUT(R)
EURO AV AD OUT(L) CN853
AD RF OUT
AUDIO OUT(L)(RCA-REAR) CN210
AUDIO OUT(R)(RCA-REAR)
A.MUTE H
A.MUTE
Q2404 Q2304
Q2507 Q2504
Q2303
Q2403
Q2515
PRE-AMP UNIT.
IC291 UPC2350CS AF REC/PB AMP
AF REC CTL
REC MUTE ON/OFF
AMP
PB ON
AF SW P
HEAD SW
SP 23## LP 28##
VCC
REC VCC
REC 12V
TP291 CURRENT CHECK
CN186
CN253
CN291
AF HEAD
AF-CH1
AF-CH2
PB H
Q2505
SWD 5V
NICAM DECODER
NORMAL AUDIO SELECT
CN252
TN-5 BOARD
NORMAL TU AUDIO
IC261 NORMAL AUDIO SELECTOR
A.DUB
INPUT SEL A
Q2654
(TRACKING SIG.) HI-FI ENV. TO SYSCON
HI-FI L
CN251
CN271
AD-2 BOARD
TRACK.SIG
CN272 HEAD PHONE JACK
VR242 METER ADJ(R)
VR241 METER ADJ(L)
LEVEL METER
A2701
S2701
OFF
LEVEL
TRACKING
METER SW
VR271
V.REF (SWD 5V)
H.P. VOLUME
CN272 HI-FI L TO TN-1
MECHANISM BLOCK
AUDIO R/P HEAD
AUDIO E HEAD
FULL E HEAD
CN201
IC201 LA7294 NORMAL AUDIO
PB EQ
LP ON
EQUALIZE AMP
EE PB
REC EE PB
VR201 BIAS
POWER ON/OFF MUTE
REC AMP
T2001 Q2001
70K OSC
PUSH CURRENT PROTECT
RIPPLE FILTER
SWD 12V
C2008 R2006 LPF & LEVEL R2091 R2092
EE MUTE
AGC
ALC DET
PB MUTE
LINE AMP
MUTING CONTROL
REC MUTE
PEAKING L2002 C2013 R2014
LP
LP CONTROL
PB/EE CONTROL
REC/EE CONTROL
R2009 R2624 C2009 C2618 ATTACK RECOVERY TIME CR
R2010 R2011 ALC LEVEL
R2012 R2013 ALC LEVEL
LP H
A-NOR-PB
A-NOR-REC
BDA1-13105/VP4H-E

SYSTEM CONTROL & SERVO CIRCUIT BASIC BLOCK DIAGRAM

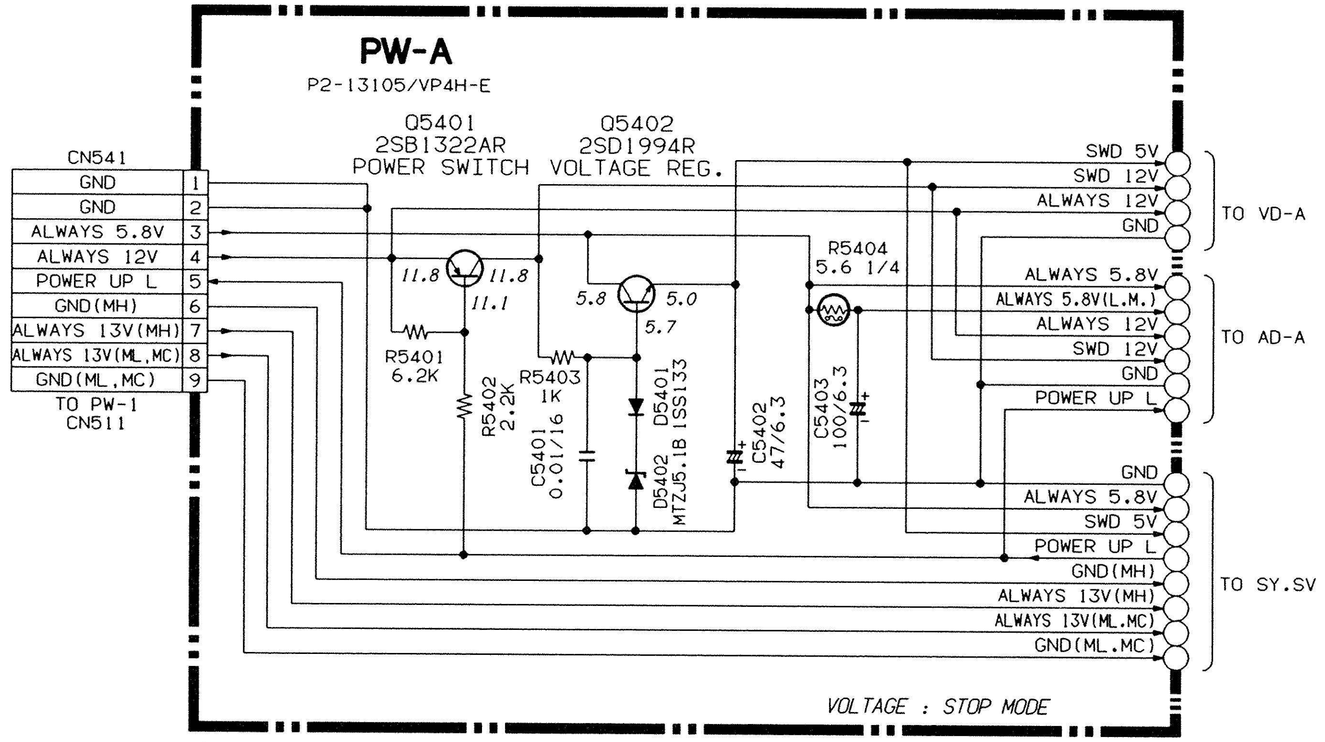


TO POWER SUPPLY (POWER UP)
Q3007
TO AUDIO
NORM/HIFI
ST/L/R
A MUTE
AF ENV.
A NOR REC
A NOR PB
A DUB H
INPUT SEL A
REC H
ALWAYS 13V
DRIVE VOLTAGE
D3021
D3022
(8.2V)
(5.6V)
Q3023
Q3024
Q3022
SLOW·STILL
Q3601
Q3501
AGC TIME
CTL HEAD
MECHANISM
LOADING MOTOR
ML
IC303
LB1641
LOADING MOTOR DRIVE
R3064
3.3Ω 1/2W
ALWAYS 13V
MECHANISM MODE SWITCH
ROTARY SW
FL START SW
ERASE PREVENTION SWITCH
TAKE-UP REEL SENSOR
DEW SENSOR
SUPPLY REEL SENSOR
Q3002
T.REEL SENSOR AMP
Q3001
S.REEL SENSOR AMP
TAPE TOP SENSOR
TAPE END LED
TAPE END SENSOR
IC301
UPD78134
SYSTEM CONTROL AND SERVO MPU
ML-F
ML-R
ML-L
ML-M
A NOR PB
A NOR REC
A REC MUTE
A MUTE
A.DUB
ST/L/R
NORMAL/HIFI
IN SEL A
IN SEL V
REC
PB HIGH
SPECIAL PLAY
POWER UP
LP-H
AF REC
ANT/VIDEO
FE CTL
REMARK
CAP START
DRUM P
FF·REW
DOC OFF
VSS
NC(H)
SP(LP/EP)
EDIT IN
SW DATA 0
SW DATA 1
SW DATA 2
FL START SW
SAFETY SW
VDD
T.REEL.P
S.REEL.P
AV CONT.
ALWAYS 5V
CAP F/R
N.C
CTL G.D.
SLOW·STILL
VD REC
ROTARY
H.AMP.SW
VSS
X1
X2
VDD
RESET
T END S.
T TOP S.
OPTION
DEW S
XF301
12MHz
ALWAYS 5V
PG
S IN
S OUT
S CLK
INSERT ON/OFF
ENV SW
DOC
C FG 2
C FG 1
HFG
PB CTL P
COMP SYNC
RF SW P
AF SW P
VDP
REC CTL
DRUM PWM
CAP PWM
A VSS
A VREF
AF ENV
VD ENV
PG MMW
SLOW TRK
ALWAYS 5V
IC352
SERVO AMP LA7124
REMARK
REC CTL
SWITCH LOGIC
TRAPE
REC AMP
CTL PB AMP
PB ON
AGC DET
AGC AMP
CTL SHAPE
THRESH SELECT
PB CTL
CTL REC/PB AMP
HEAD DRUM MOTOR SERVO AMP
NFB & LIMITER
MH
MC
CAPSTAN MOTOR SERVO AMP
R3506,R3503
C3505,C3506
DRUM PWM L.P.F
CAPSTAN PWM L.P.F
R3507,R3533
C3507,C3509
Q3502
CAPSTAN FG1 AMP
CAPSTAN FG2 AMP
DRUM FG AMP
DRUM PG AMP
FG 1
FG 2
D-FG
D-PG
CAPSTAN MOTOR DRIVE
HEAD DRUM MOTOR DRIVE
TO VIDEO
SLOW·STILL
REC
PB
SPECIAL PLAY
ANT/VIDEO
ROTARY
IN SEL V
A REC MUTE
DOC OFF
LP H(LP V MUTE)
AV CONT
MECHANISM
CTL HEAD
C-FG1
C-FG2
F/R
CAPSTAN MOTOR
C-VS
D-VS
HEAD DRUM MOTOR
D-FG
D-PG
IC302
RESET
ALWAYS 5V
SET UP VOLTAGE
OPTION
2HEAD MODEL 0V
3HEAD MODEL 1.2V
4HEAD MODEL 5.0V
ALWAYS 5V
SSB DATA
SSB CLK
TO TERMINAL BOARD (EDIT SW
PB CTL
TO VIDEO
ENV SW
RF SW P
DOC P
PB Y
SP L(LP H)
H AMP SW
Q3025
Q3005,Q3006
ENVELOPE AMP
ENV.DET.
C3501
SLOW SUB TRACKING ADJ.
ALWAYS 5V
C3502
VR352
Q3602
LP TRACKING ADJ.
VR353
SP TRACKING ADJ.
SWD 5V
VR351 SWITCHING POSITION ADJ.
TO AUDIO
SP L(LP H)
AF SW P
IC391 SYNC GENERATOR
VD
HD
V IN
BA7046
Q3953
BUFFER
C-SYNC
VD PULSE
VD/HD MIX
V LOCK PULSE
D3951
D3952
Q3952
HD INSERT
TO VIDEO
BDS1-13125/VP4H-E

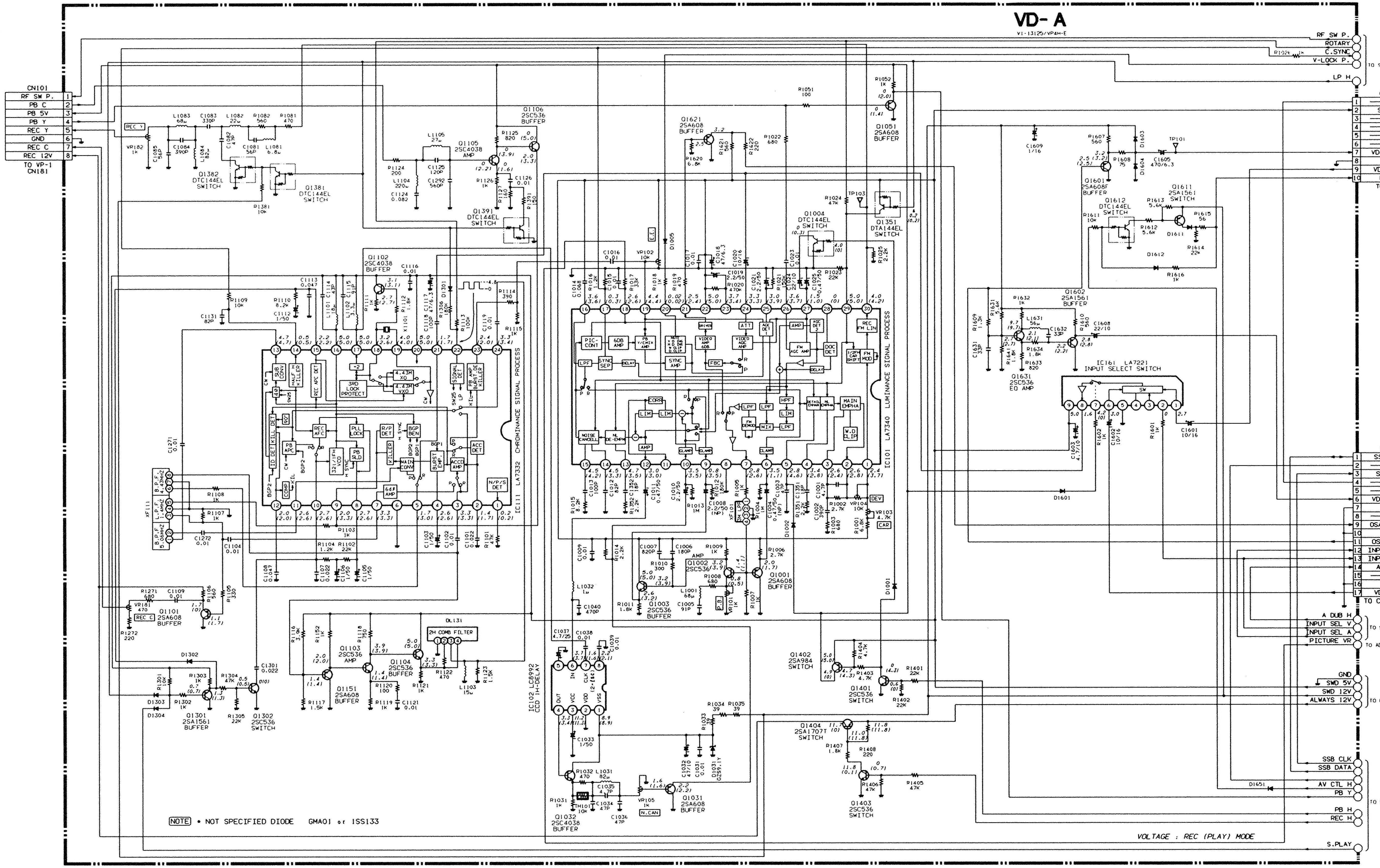
PW-1 BOARD POWER SUPPLY CIRCUIT DIAGRAM


PW-1
P1-13125/VP4H-E
C5002 0.068/250
C5001 0.22/250
F5001 T2A 250V
CN501
AC INLET
AC IN
220~240V 50Hz~60Hz
R5001 2.7M 1/2W (SOLID)
L5002 16mH
C5021 0.0022
C5020 0.0022
C5023 0.0022
C5022 0.0022
D5001 DBC10G
R5002 2.2 2W
C5003 62/400
C5004 0.047/630
R5004 68K 2W
R5003 68K 2W
R5016 1M 1/2W
C5007 1/400
T5001
C5005 330P
D5003 AP01C
C5015 0.018
D5010 DSK10E
Q5001 2SK1460 SWITCHING REG.
Q5002 2SC3330T REG.
R5010 1K
Q5003 2SB1050R REG.
R5013 10K
R5008 100 1/2W
R5007 33 1/2W
R5005 240K 1W
D5005 1SS244
R5012 22
C5009 0.0047
R5009 47K
D5009 ERB12-02
D5004 1SS244
C5008 2.2/16 (OS)
D5008 1SS244
C5012 0.018
C5011 0.0022
R5015 0.47 1W
R5014 27K
C5010 220
D5007 1SS244
R5011 1
D5006 GZB18C
D5011 PC113A
0.05
0.01
D5104 AG01
C5106 47/50
D5101 DLE30C
L5101
R5112 2.2K
C5101 820/16
C5102 470/16
C5107 47/50
D5105 1SS244
D5106 1SS244
L5102 10μ
D5103 ERB81-004
C5104 820/10
C5105 470/6.3
C5109 0.047
R5103 2.2K
R5101 2.7 1/4
D5107 AG01
C5108 330/6.3
R5107 100
R5108 15K
R5114 470 1/2
Q5103 2SC3851Y VOLTAGE REG.
R5115 470 1/2
IC521 SI-3120CA VOLTAGE REG.
R5113 2.2K
Q5104 2SC536E VOLTAGE REG.
D5113 GZS2.0X
C5111 100/16
D5115 MTZJ12A
D5114 MTZJ12A
R5102 220 1/4W
R5109 6.2K
R5110 2.2K
R5106 2.2K
D5109 MTZJ4.7B
R5104 1.8K
C5110 0.1
R5111 1K
C5114 0.01
D5110 1SS133
C5115 47/6.3
D5108 DSK10C
IC511 L5431 SHUNT REG
R5105 1.6K
R5117 12K
D5111 MTZJ5.1B
Q5101 2SB1322AR POWER SWITCH
Q5102 2SD1994R VOLTAGE REG.
PR512 ICP-F50
PR511 ICP-F50
4.4 14.2 32 12.7 14.2 11.8 13.4 14.0 5.9 -27.0 -23.6 11.8 11.1 5.9 5.1 11.8 5.8 4.7 2.5 3.1V 5.8 4.7
CN511
1 GND
2 GND
3 ALWAYS 5.8V
4 ALWAYS 12V
5 POWER UP L
6 GND(MH)
7 ALWAYS 13V(MH)
8 ALWAYS 13V(ML.MC)
9 GND(ML.MC)
TO PW-A(CP-1) CN541
CN512
1 SWD 12V
2 GND
3 HEATER +
4 HEATER -
5 ALWAYS -23V
6 ALWAYS 5V
7 ALWAYS 32V
8 ALWAYS 12V
9 SWD 5V
10 GND
TO CP-2 CN703
VOLTAGE : STOP MODE

CP-1 BOARD (PW-A) POWER SUPPLY CIRCUIT DIAGRAM

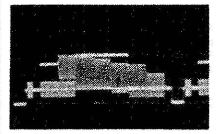
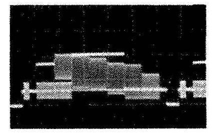
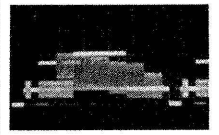
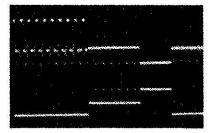
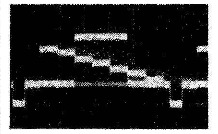
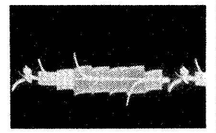
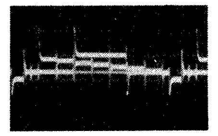
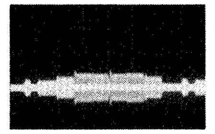
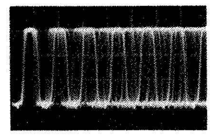
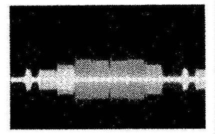
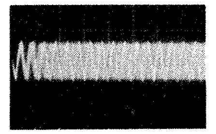
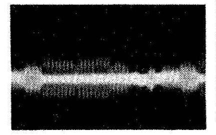
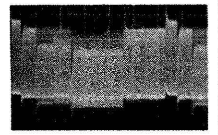
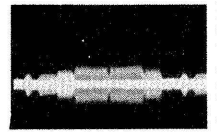
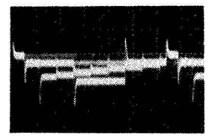
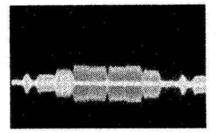
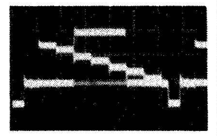
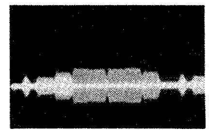
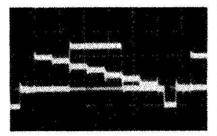
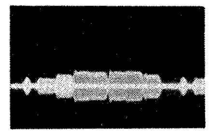
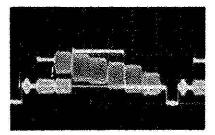
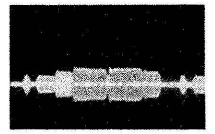

PW-A
P2-13105/VP4H-E
CN541
1 GND
2 GND
3 ALWAYS 5.8V
4 ALWAYS 12V
5 POWER UP L
6 GND(MH)
7 ALWAYS 13V(MH)
8 ALWAYS 13V(ML,MC)
9 GND(ML,MC)
TO PW-1 CN511
Q5401 2SB1322AR POWER SWITCH
Q5402 2SD1994R VOLTAGE REG.
R5401 6.2K
R5402 2.2K
R5403 1K
C5401 0.01/16
D5401 MTZJ5.1B
D5402 1SS133
C5402 47/6.3
C5403 100/6.3
R5404 5.6 1/4
11.8 11.8 11.1 5.8 5.0 5.7
SWD 5V
SWD 12V
ALWAYS 12V
GND
TO VD-A
ALWAYS 5.8V
ALWAYS 5.8V(L.M.)
ALWAYS 12V
SWD 12V
GND
POWER UP L
TO AD-A
GND
ALWAYS 5.8V
SWD 5V
POWER UP L
GND(MH)
ALWAYS 13V(MH)
ALWAYS 13V(ML,MC)
GND(ML,MC)
TO SY.SV
VOLTAGE : STOP MODE

CP-1 BOARD (VD-A) VIDEO CIRCUIT DIAGRAM

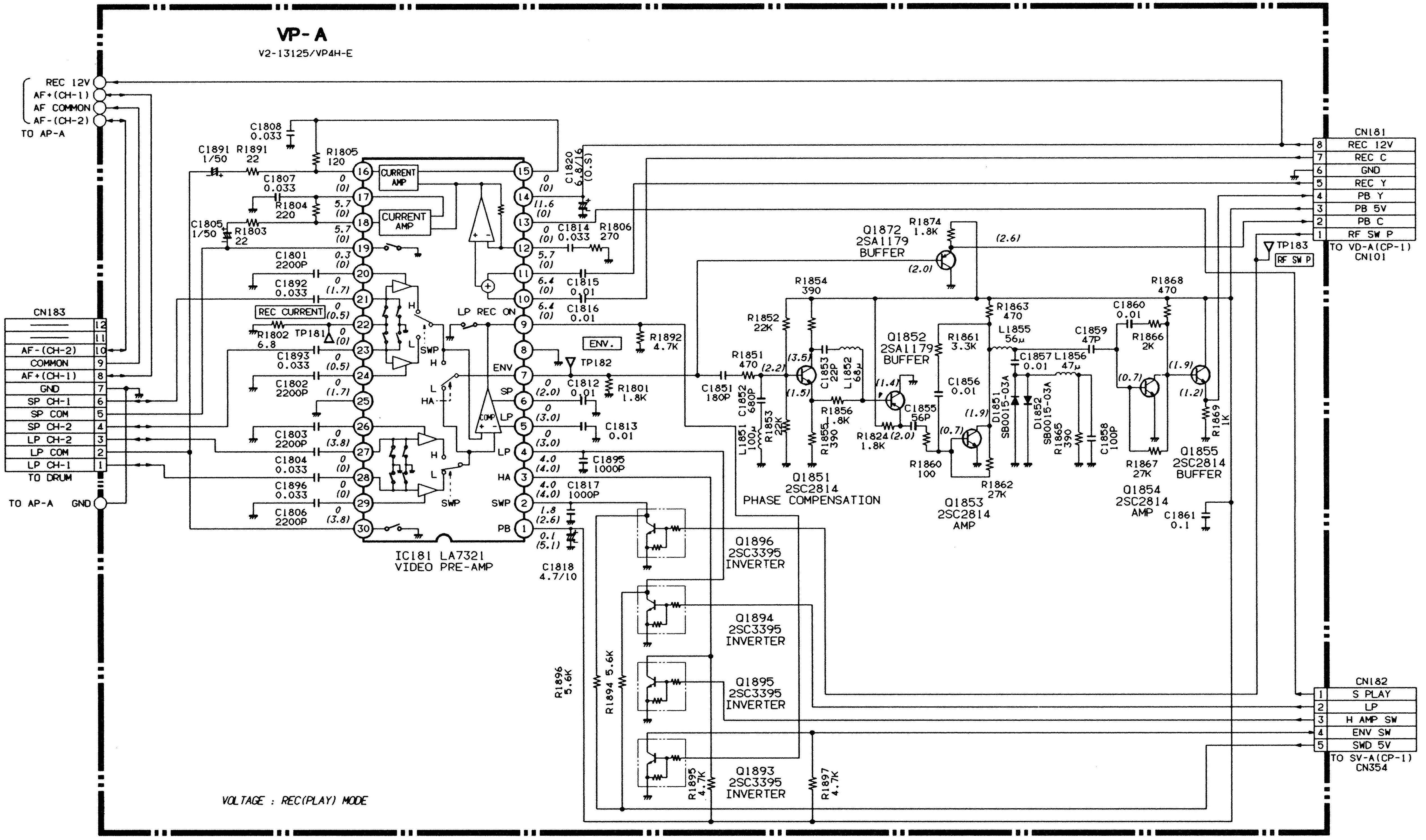

VD- A
CN101
RF SW P.
PB C
PB 5V
PB Y
REC Y
GND
REC C
REC 12V
TO VP-1 CN181
RF SW P.
ROTARY
C.SYNC
V-LOCK P.
TO SV-A
LP H
CN851
SWD 5V
VD AV OUT
GND
VD AV IN
F.S.S
TO TB-1
CN161
SSB DATA
SSB CLK
GND
VD RF OUT
GND
OSA VD OUT
GND
OSA VD IN
INPUT SEL A
INPUT SEL V
A DUB H
GND
VD TU IN
TO CP-2 CN601
A DUB H
INPUT SEL V
INPUT SEL A
PICTURE VR
TO SV-A
TO AD-A
GND
SWD 5V
SWD 12V
ALWAYS 12V
TO PW-A
SSB CLK
SSB DATA
AV CTL H
PB Y
PB H
REC H
TO SV-A
S.PLAY
IC101 LA7340 LUMINANCE SIGNAL PROCESS
IC111 LA7332 CHROMINANCE SIGNAL PROCESS
IC161 LA7221 INPUT SELECT SWITCH
IC102 LC8992 CCD 1H-DELAY
DL131 2H COMB FILTER
Q1106 2SC536 BUFFER
Q1105 2SC4038 AMP
Q1391 DTC144EL SWITCH
Q1382 DTC144EL SWITCH
Q1381 DTC144EL SWITCH
Q1621 2SA608 BUFFER
Q1051 2SA608 BUFFER
Q1004 DTC144EL SWITCH
Q1351 DTA144EL SWITCH
Q1601 2SA608F BUFFER
Q1612 DTC144EL SWITCH
Q1611 2SA1561 SWITCH
Q1602 2SA1561 BUFFER
Q1631 2SC536 EQ AMP
Q1102 2SC4038 BUFFER
Q1101 2SA608 BUFFER
Q1103 2SC536 AMP
Q1104 2SC536 BUFFER
Q1151 2SA608 BUFFER
Q1301 2SA1561 BUFFER
Q1302 2SC536 SWITCH
Q1002 2SC536 AMP
Q1001 2SA608 BUFFER
Q1003 2SC536 BUFFER
Q1032 2SC4038 BUFFER
Q1031 2SA608 BUFFER
Q1402 2SA984 SWITCH
Q1401 2SC536 SWITCH
Q1404 2SA1707T SWITCH
Q1403 2SC536 SWITCH
NOTE • NOT SPECIFIED DIODE GMA01 or 1SS133
VOLTAGE : REC (PLAY) MODE

WAVEFORM OF VIDEO

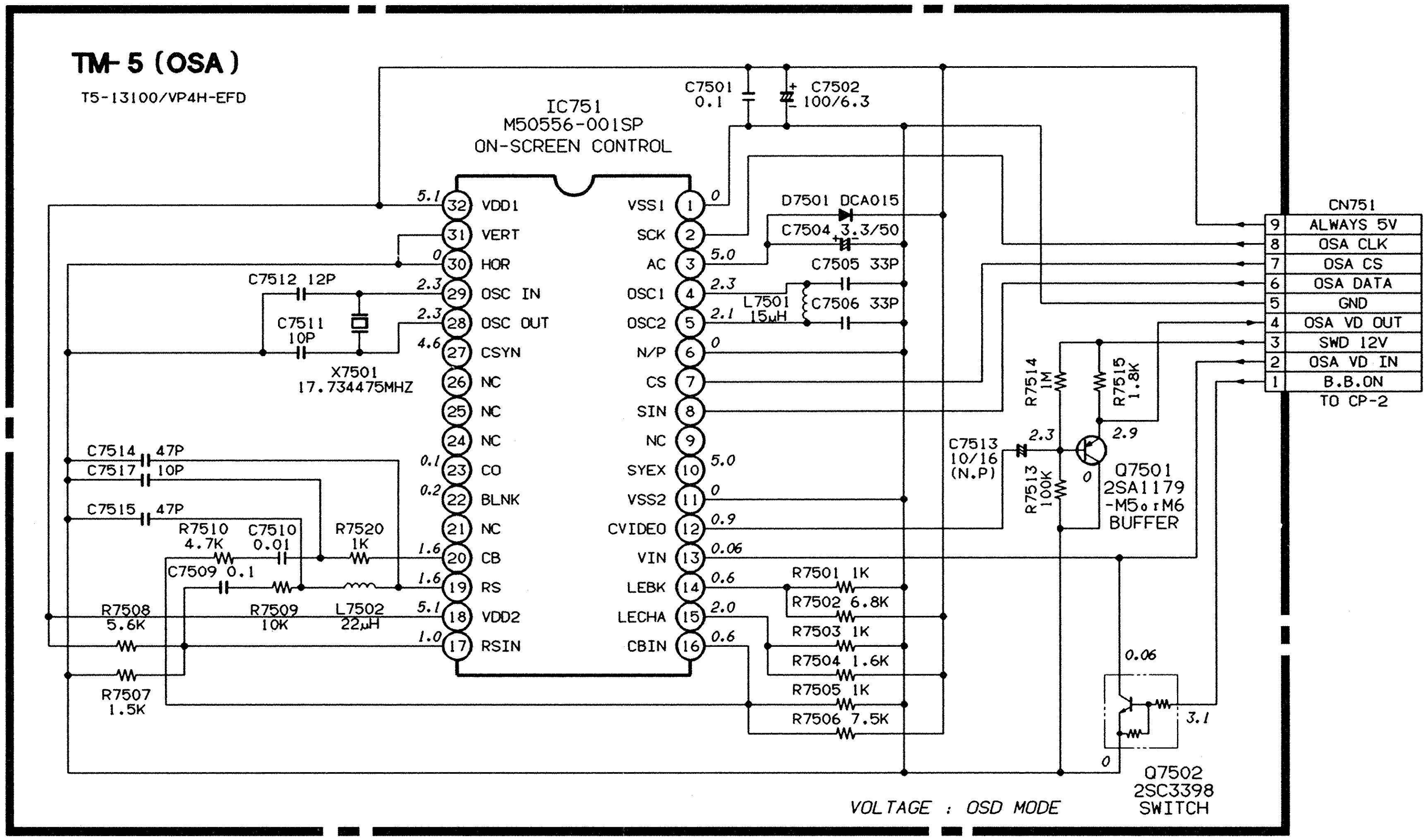
WF-V-SP

TEST LOCATION	WAVEFORM	MODE/LEVEL	TEST LOCATION	WAVEFORM	MODE/LEVEL
IC101 Pin 24		REC, EE 1 Vp-p	IC101 Pin 21		REC, EE 2 Vp-p
IC101 Pin 7		REC, EE 1 Vp-p	IC101 (UPPER) Pin 21 (LOWER) Pin 20		STILL (UPPER) 2 Vp-p (LOWER) 5 Vp-p
IC101 Pin 6		REC, EE 0.45 Vp-p	IC111 Pin 21		REC, EE 1 Vp-p
IC101 Pin 2		REC, EE 1.3 Vp-p	IC111 Pin 3		REC, EE 0.14 Vp-p
IC101 Pin 30		REC, EE 1.5 Vp-p	IC111 Pin 9		REC, EE 0.8Vp-p
IC101 Pin 26		PB 0.8 Vp-p	Q1105 Base		PB 0.1 Vp-p
IC101 Pin 7		PB 2.0 Vp-p	Q1106 Emitter		PB 1.2 Vp-p
Q1002 Base		PB 0.5 Vp-p	IC111 Pin 7		PB 0.5 Vp-p
IC101 Pin 9		PB 0.6 Vp-p	IC111 Pin 5		PB 1.2 Vp-p
IC101 Pins 10/12		PB 0.5 Vp-p	IC111 Pin 24		PB 0.22 Vp-p
IC101 Pin 21		PB 2 Vp-p	IC111 Pin 23		PB 0.6 Vp-p

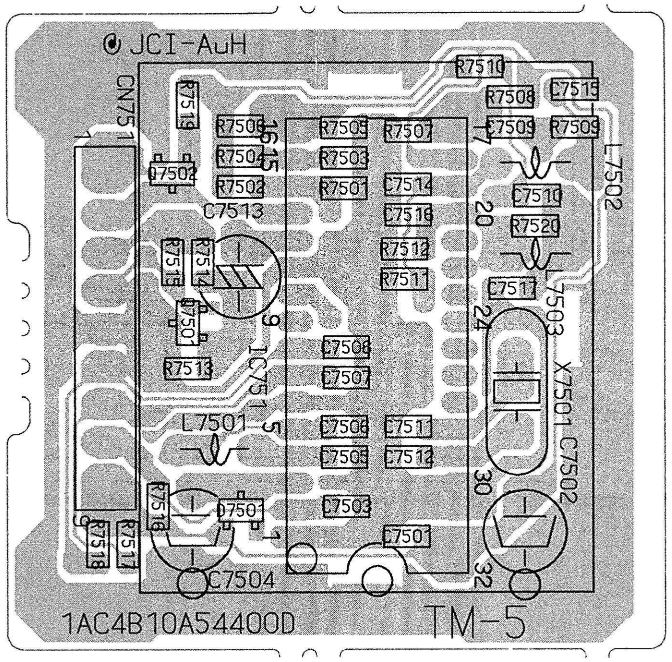
VP-1 BOARD (VP-A) VIDEO PRE-AMP CIRCUIT DIAGRAM


VP-A
V2-13125/VP4H-E
REC 12V
AF+(CH-1)
AF COMMON
AF-(CH-2)
TO AP-A
CN183
AF-(CH-2)
COMMON
AF+(CH-1)
GND
SP CH-1
SP COM
SP CH-2
LP CH-2
LP COM
LP CH-1
TO DRUM
TO AP-A GND
C1808 0.033
C1891 1/50
R1891 22
R1805 120
C1807 0.033
R1804 220
C1805 1/50
R1803 22
C1801 2200P
C1892 0.033
REC CURRENT
R1802 6.8
TP181
C1893 0.033
C1802 2200P
C1803 2200P
C1804 0.033
C1896 0.033
C1806 2200P
CURRENT AMP
COMP
LP REC ON
SWP
ENV
SP
LP
HA
PB
IC181 LA7321
VIDEO PRE-AMP
C1820 6.8/16
C1814 0.033
R1806 270
C1815 0.01
C1816 0.01
R1892 4.7K
ENV.
TP182
C1812 0.01
R1801 1.8K
C1813 0.01
C1895 1000P
C1817 1000P
C1818 4.7/10
Q1896 2SC3395 INVERTER
Q1894 2SC3395 INVERTER
Q1895 2SC3395 INVERTER
Q1893 2SC3395 INVERTER
R1896 5.6K
R1894 5.6K
R1895 4.7K
R1897 4.7K
VOLTAGE : REC(PLAY) MODE
Q1872 2SA1179 BUFFER
R1874 1.8K
R1854 390
R1852 22K
R1851 470
C1851 180P
C1852 680P
L1851 100μ
R1853 22K
C1853 22P
L1852 68μ
R1855 390
R1856 1.8K
Q1851 2SC2814
PHASE COMPENSATION
Q1852 2SA1179 BUFFER
R1824 1.8K
C1855 56P
R1860 100
R1861 3.3K
C1856 0.01
R1863 470
L1855 56μ
C1857 0.01
L1856 47μ
D1851 SB0015-03A
D1852 SB0015-03A
R1865 390
C1858 100P
Q1853 2SC2814 AMP
R1862 27K
C1859 47P
C1860 0.01
R1866 2K
R1868 470
Q1854 2SC2814 AMP
R1867 27K
C1861 0.1
R1869 1K
Q1855 2SC2814 BUFFER
TP183
RF SW P
CN181
REC 12V
REC C
GND
REC Y
PB Y
PB 5V
PB C
RF SW P
TO VD-A(CP-1) CN101
CN182
S PLAY
LP
H AMP SW
ENV SW
SWD 5V
TO SV-A(CP-1) CN354

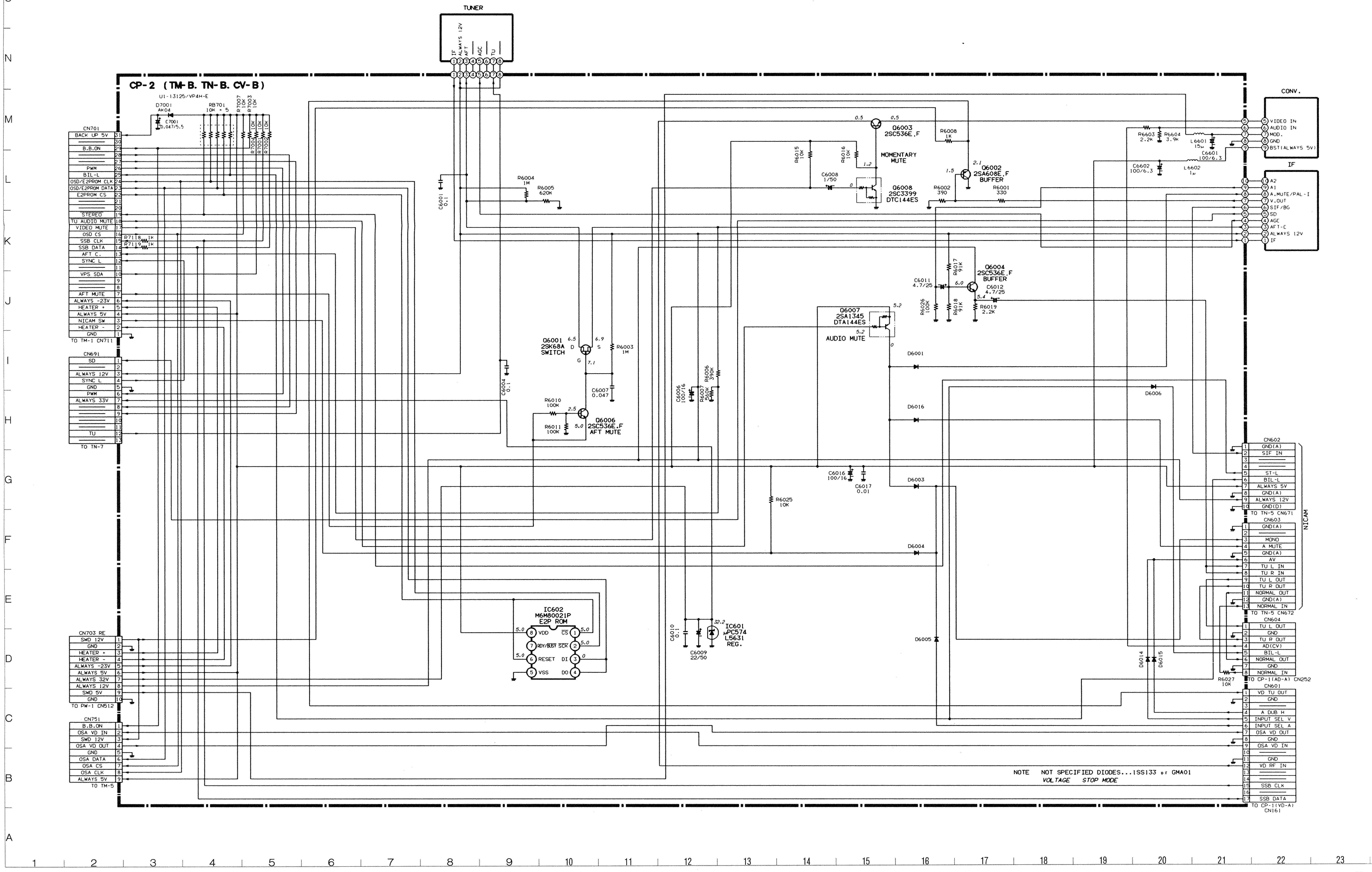
TM-5 BOARD TIMER ON-SCREEN (OSA) CIRCUIT DIAGRAM


TM-5 (OSA)
T5-13100/VP4H-EFD
IC751
M50556-001SP
ON-SCREEN CONTROL
VDD1
VERT
HOR
OSC IN
OSC OUT
CSYN
NC
NC
NC
CO
BLNK
NC
CB
RS
VDD2
RSIN
VSS1
SCK
AC
OSC1
OSC2
N/P
CS
SIN
NC
SYEX
VSS2
CVIDEO
VIN
LEBK
LECHA
CBIN
C7501 0.1
C7502 100/6.3
D7501 DCA015
C7504 3.3/50
C7505 33P
L7501 15µH
C7506 33P
C7512 12P
C7511 10P
X7501 17.734475MHZ
C7514 47P
C7517 10P
C7515 47P
R7510 4.7K
C7510 0.01
R7520 1K
C7509 0.1
R7508 5.6K
R7509 10K
L7502 22µH
R7507 1.5K
R7501 1K
R7502 6.8K
R7503 1K
R7504 1.6K
R7505 1K
R7506 7.5K
C7513 10/16 (N.P)
R7514 1M
R7515 1.8K
R7513 100K
Q7501 2SA1179 -M5 or M6 BUFFER
Q7502 2SC3398 SWITCH
CN751
9 ALWAYS 5V
8 OSA CLK
7 OSA CS
6 OSA DATA
5 GND
4 OSA VD OUT
3 SWD 12V
2 OSA VD IN
1 B.B.ON
TO CP-2
VOLTAGE : OSD MODE

TM-5 P.C.B.


JCI-AuH
CN751
IC751
X7501
C7502
L7502
L7503
L7501
C7504
C7513
1AC4B10A54400D
TM-5

CP-2 BOARD CONNECTOR CIRCUIT DIAGRAM


TUNER
IF
ALWAYS 12V
AFT
AGC
TU
CP-2 (TM-B. TN-B. CV-B)
U1-13125/VP4H-E
D7001 AK04
C7001 0.047/5.5
RB701 10K × 5
R7007 10K
R7003 10K
R7004 10K
R7001 10K
R7002 10K
CN701
BACK UP 5V 31
30
B.B.ON 29
28
27
PWM 26
BIL-L 25
OSD/E2PROM CLK 24
OSD/E2PROM DATA 23
E2PROM CS 22
21
20
STEREO 19
TU AUDIO MUTE 18
VIDEO MUTE 17
OSD CS 16
SSB CLK 15
SSB DATA 14
AFT C. 13
SYNC L 12
11
VPS SDA 10
9
8
AFT MUTE 7
ALWAYS -23V 6
HEATER + 5
ALWAYS 5V 4
NICAM SW 3
HEATER - 2
GND 1
TO TM-1 CN711
R7118 1K
R7119 1K
CN691
SD 1
2
ALWAYS 12V 3
SYNC L 4
GND 5
PWM 6
ALWAYS 33V 7
8
9
10
11
TU 12
13
TO TN-7
CN703 RE
SWD 12V 1
GND 2
HEATER + 3
HEATER - 4
ALWAYS -23V 5
ALWAYS 5V 6
ALWAYS 32V 7
ALWAYS 12V 8
SWD 5V 9
GND 10
TO PW-1 CN512
CN751
B.B.ON 1
OSA VD IN 2
SWD 12V 3
OSA VD OUT 4
GND 5
OSA DATA 6
OSA CS 7
OSA CLK 8
ALWAYS 5V 9
TO TM-5
C6001 0.1
R6004 1M
R6005 620K
Q6001 2SK68A SWITCH
6.5 D
6.9 S
G 7.1
R6003 1M
C6007 0.047
C6004 0.1
R6010 100K
R6011 100K
2.5
5.0
Q6006 2SC536E.F AFT MUTE
IC602 M6M80021P E2P ROM
5.0 8 VDD
CS 1 5.0
7 RDY/BUSY SCK 2 5.0
5.0 6 RESET DI 3 0
5 VSS DO 4
C6010 0.1
C6009 22/50
32.2
IC601 μPC574 L5631 REG.
C6006 100/16
R6007 560K
R6006 390K
Q6003 2SC536E.F
0.5
0.5
R6015 10K
R6016 10K
1.2
MOMENTARY MUTE
C6008 1/50
0
Q6008 2SC3399 DTC144ES
R6008 1K
2.1
1.5
Q6002 2SA608E.F BUFFER
R6002 390
R6001 330
C6011 4.7/25
R6017 91K
6.0
Q6004 2SC536E.F BUFFER
C6012 4.7/25
5.4
R6026 100K
R6018 91K
R6019 2.2K
Q6007 2SA1345 DTA144ES
5.2
5.2
AUDIO MUTE
0
D6001
D6016
D6006
C6016 100/16
C6017 0.01
R6025 10K
D6003
D6004
D6005
D6014
D6015
R6027 10K
CONV.
R6603 2.2K
R6604 3.9K
L6601 15μ
C6601 100/6.3
C6602 100/6.3
L6602 1μ
5 VIDEO IN
6 AUDIO IN
7 MOD.
8 GND
9 BST(ALWAYS 5V)
IF
10 A2
9 A1
8 A.MUTE/PAL-I
7 V.OUT
6 SIF/BG
5 SD
4 AGC
3 AFT-C
2 ALWAYS 12V
1 IF
CN602
1 GND(A)
2 SIF IN
3
4
5 ST-L
6 BIL-L
7 ALWAYS 5V
8 GND(A)
9 ALWAYS 12V
10 GND(D)
TO TN-5 CN671
CN603
1 GND(A)
2
3 MONO
4 A MUTE
5 GND(A)
6 AV
7 TU L IN
8 TU R IN
9 TU L OUT
10 TU R OUT
11 NORMAL OUT
12 GND(A)
13 NORMAL IN
TO TN-5 CN672
NICAM
CN604
1 TU L OUT
2 GND
3 TU R OUT
4 AD(CV)
5 BIL-L
6 NORMAL OUT
7 GND
8 NORMAL IN
TO CP-1(AD-A) CN252
CN601
1 VD TU OUT
2 GND
3
4 A DUB H
5 INPUT SEL V
6 INPUT SEL A
7 OSA VD OUT
8 GND
9 OSA VD IN
10
11 GND
12 VD RF IN
13
14
15 SSB CLK
16
17 SSB DATA
TO CP-1(VD-A) CN161
NOTE NOT SPECIFIED DIODES...1SS133 or GMA01
VOLTAGE STOP MODE
O
N
M
L
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
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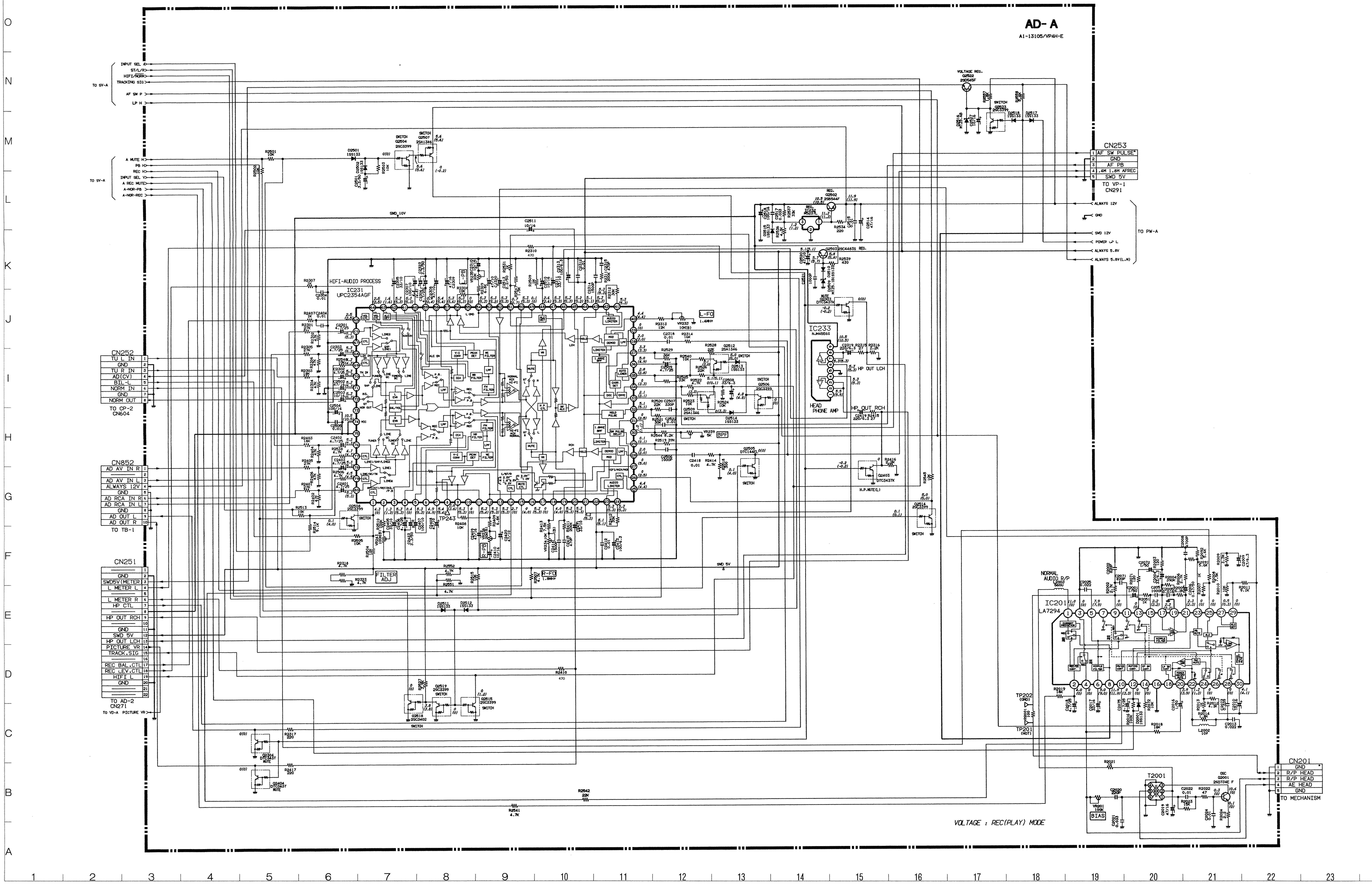
22
23

CP-1 BOARD (AD-A) AUDIO CIRCUIT DIAGRAM


AD-A
A1-13105/VP4H-E
INPUT SEL A
ST/L/R
HIFI/NORM
TRACKING SIG
TO SV-A
AF SW P
LP H
A MUTE H
PB H
REC H
INPUT SEL V
A REC MUTE
A-NOR-PB
A-NOR-REC
SWD 10V
HIFI-AUDIO PROCESS
IC231
UPC2354AGF
CN252
TU L IN
GND
TU R IN
AD(CV)
BIL-L
NORM IN
GND
NORM OUT
TO CP-2
CN604
CN852
AD AV IN R
AD AV IN L
ALWAYS 12V
GND
AD RCA IN R
AD RCA IN L
GND
AD OUT L
AD OUT R
TO TB-1
CN251
GND
SWD5V(METER
L METER L
L METER R
HP CTL
HP OUT RCH
GND
SWD 5V
HP OUT LCH
PICTURE VR
TRACK.SIG
REC BAL.CTL
REC LEV.CTL
HIFI L
GND
TO AD-2
CN271
TO VD-A PICTURE VR
FILTER ADJ
R-FO
L-FO
BPF
TP243
SWD 5V
IC233
NJM4556S
HEAD PHONE AMP
HP OUT LCH
HP OUT RCH
H.P.MUTE(L)
VOLTAGE REG.
Q2522
2SD545F
CN253
AF SW PULSE
GND
AF PB
1.4M 1.8M AFREC
SWD 5V
TO VP-1
CN291
ALWAYS 12V
GND
SWD 12V
POWER L
ALWAYS 5.8V
ALWAYS 5.8V(L.M)
TO PW-A
NORMAL AUDIO R/P
IC201
LA7294
TP202 (GND)
TP201 (HOT)
T2001
BIAS
VR2001
OSC
Q2001
2SD734E F
CN201
GND
R/P HEAD
R/P HEAD
AE HEAD
GND
TO MECHANISM
VOLTAGE : REC(PLAY) MODE
O
N
M
L
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
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16
17
18
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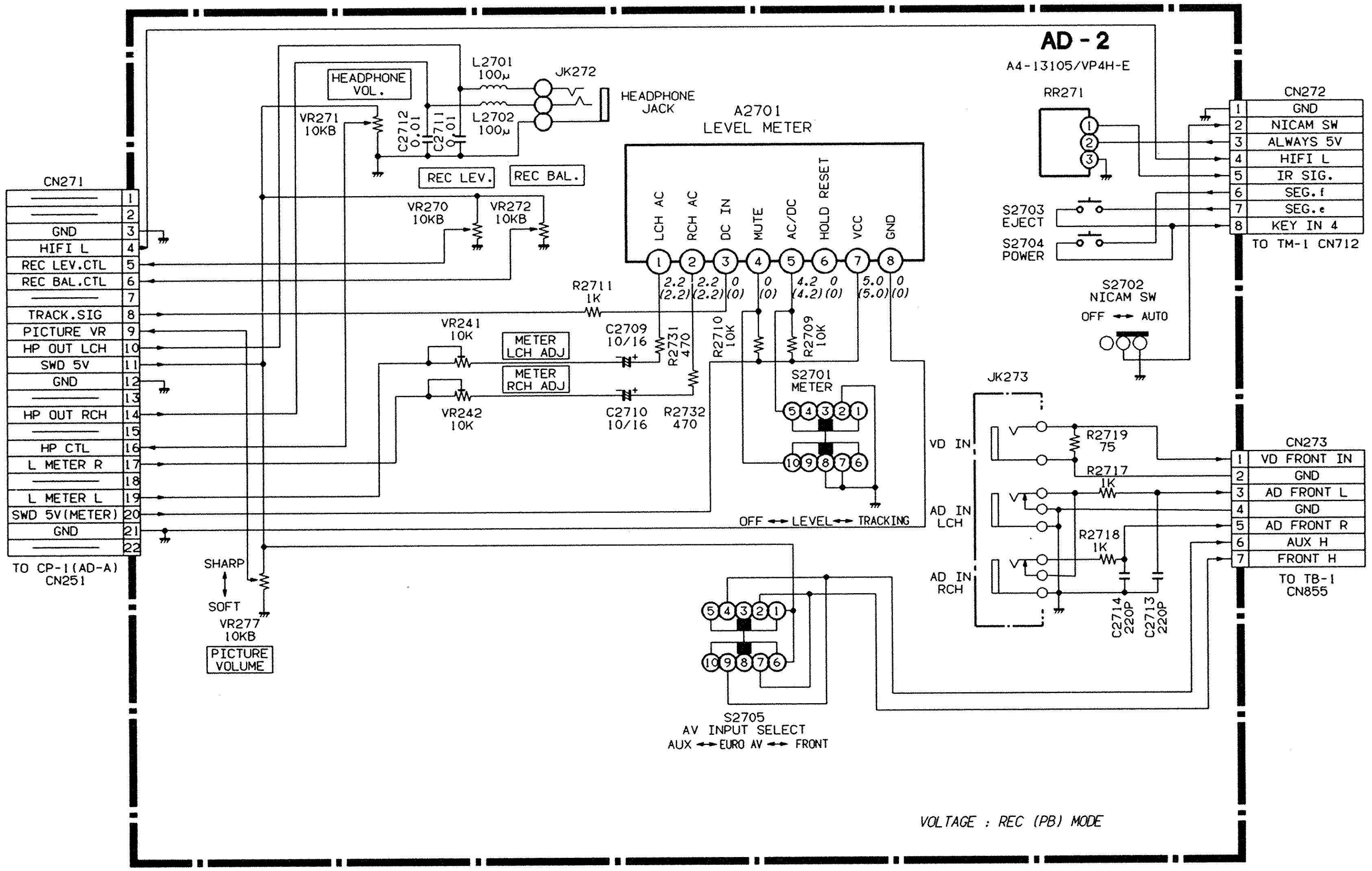
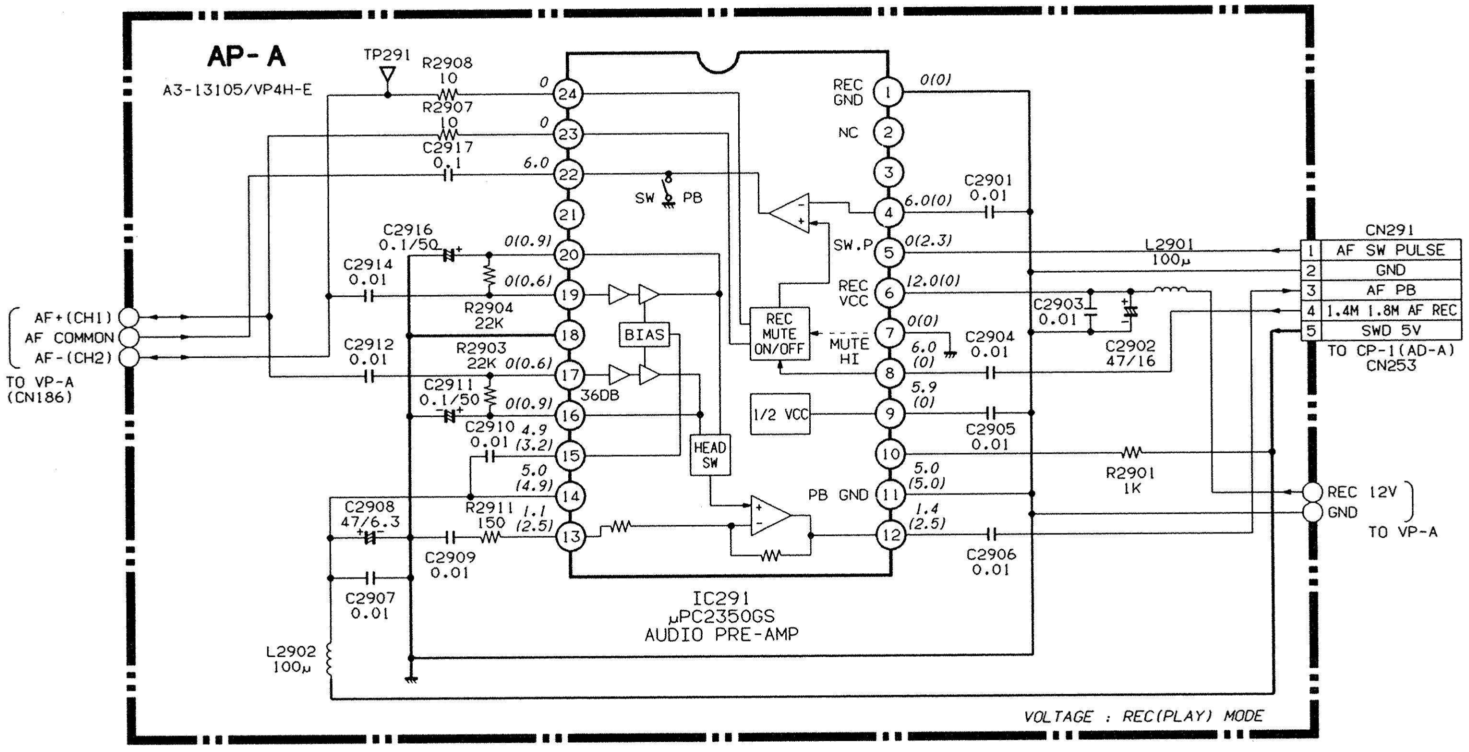
22
23

AD-2 BOARD AUDIO LEVEL METER CIRCUIT DIAGRAM


AD - 2
A4-13105/VP4H-E
CN271
GND
HIFI L
REC LEV.CTL
REC BAL.CTL
TRACK.SIG
PICTURE VR
HP OUT LCH
SWD 5V
GND
HP OUT RCH
HP CTL
L METER R
L METER L
SWD 5V(METER)
GND
TO CP-1(AD-A) CN251
HEADPHONE VOL.
VR271 10KB
C2712 0.01
C2711 0.01
L2701 100μ
L2702 100μ
JK272
HEADPHONE JACK
REC LEV.
REC BAL.
VR270 10KB
VR272 10KB
A2701 LEVEL METER
LCH AC
RCH AC
DC IN
MUTE
AC/DC
HOLD RESET
VCC
GND
2.2 (2.2)
2.2 (2.2)
0 (0)
0 (0)
4.2 (4.2)
0 (0)
5.0 (5.0)
0 (0)
R2711 1K
VR241 10K
METER LCH ADJ
METER RCH ADJ
VR242 10K
C2709 10/16
C2710 10/16
R2731 470
R2732 470
R2710 10K
R2709 10K
S2701 METER
OFF ◄► LEVEL ◄► TRACKING
SHARP
SOFT
VR277 10KB
PICTURE VOLUME
S2705 AV INPUT SELECT
AUX ◄► EURO AV ◄► FRONT
RR271
S2703 EJECT
S2704 POWER
S2702 NICAM SW
OFF ◄► AUTO
CN272
GND
NICAM SW
ALWAYS 5V
HIFI L
IR SIG.
SEG.f
SEG.e
KEY IN 4
TO TM-1 CN712
JK273
VD IN
AD IN LCH
AD IN RCH
R2719 75
R2717 1K
R2718 1K
C2714 220P
C2713 220P
CN273
VD FRONT IN
GND
AD FRONT L
GND
AD FRONT R
AUX H
FRONT H
TO TB-1 CN855
VOLTAGE : REC (PB) MODE

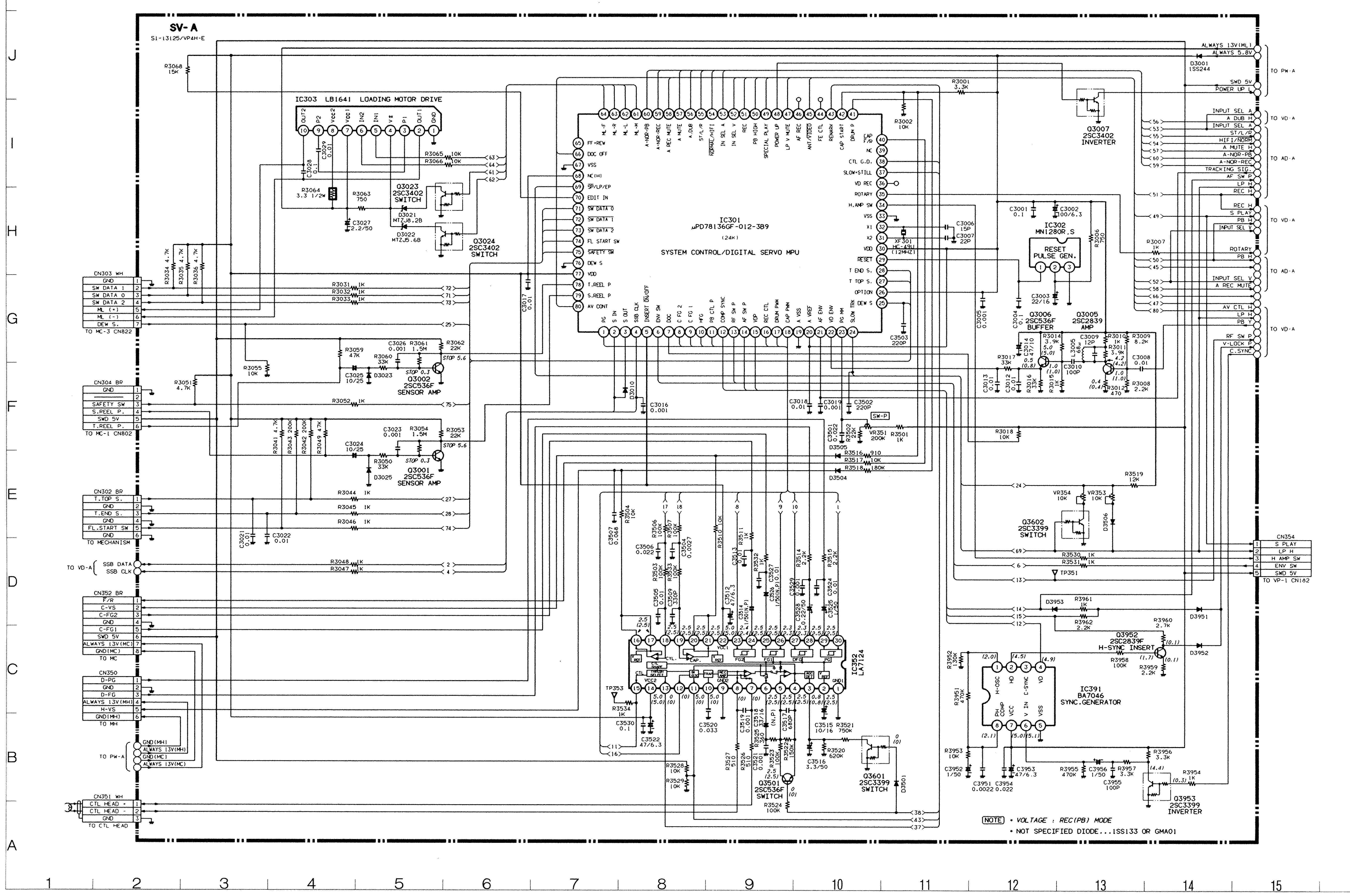
VP-1 BOARD (AP-A) AUDIO PRE-AMP CIRCUIT DIAGRAM


AP- A
A3-13105/VP4H-E
TP291
R2908 10
R2907 10
C2917 0.1
C2916 0.1/50
C2914 0.01
C2912 0.01
R2904 22K
R2903 22K
C2911 0.1/50
C2910 0.01
C2908 47/6.3
R2911 150
C2909 0.01
C2907 0.01
L2902 100μ
AF+(CH1)
AF COMMON
AF-(CH2)
TO VP-A (CN186)
SW PB
BIAS
36DB
REC MUTE ON/OFF
HEAD SW
1/2 VCC
REC GND
NC
SW.P
REC VCC
MUTE HI
PB GND
0
0
6.0
0(0.9)
0(0.6)
0(0.6)
0(0.9)
4.9 (3.2)
5.0 (4.9)
1.1 (2.5)
0(0)
6.0(0)
0(2.3)
12.0(0)
0(0)
6.0 (0)
5.9 (0)
5.0 (5.0)
1.4 (2.5)
C2901 0.01
C2904 0.01
C2905 0.01
C2906 0.01
C2903 0.01
C2902 47/16
L2901 100μ
R2901 1K
IC291 μPC2350GS AUDIO PRE-AMP
CN291
AF SW PULSE
GND
AF PB
1.4M 1.8M AF REC
SWD 5V
TO CP-1(AD-A) CN253
REC 12V
GND
TO VP-A
VOLTAGE : REC(PLAY) MODE

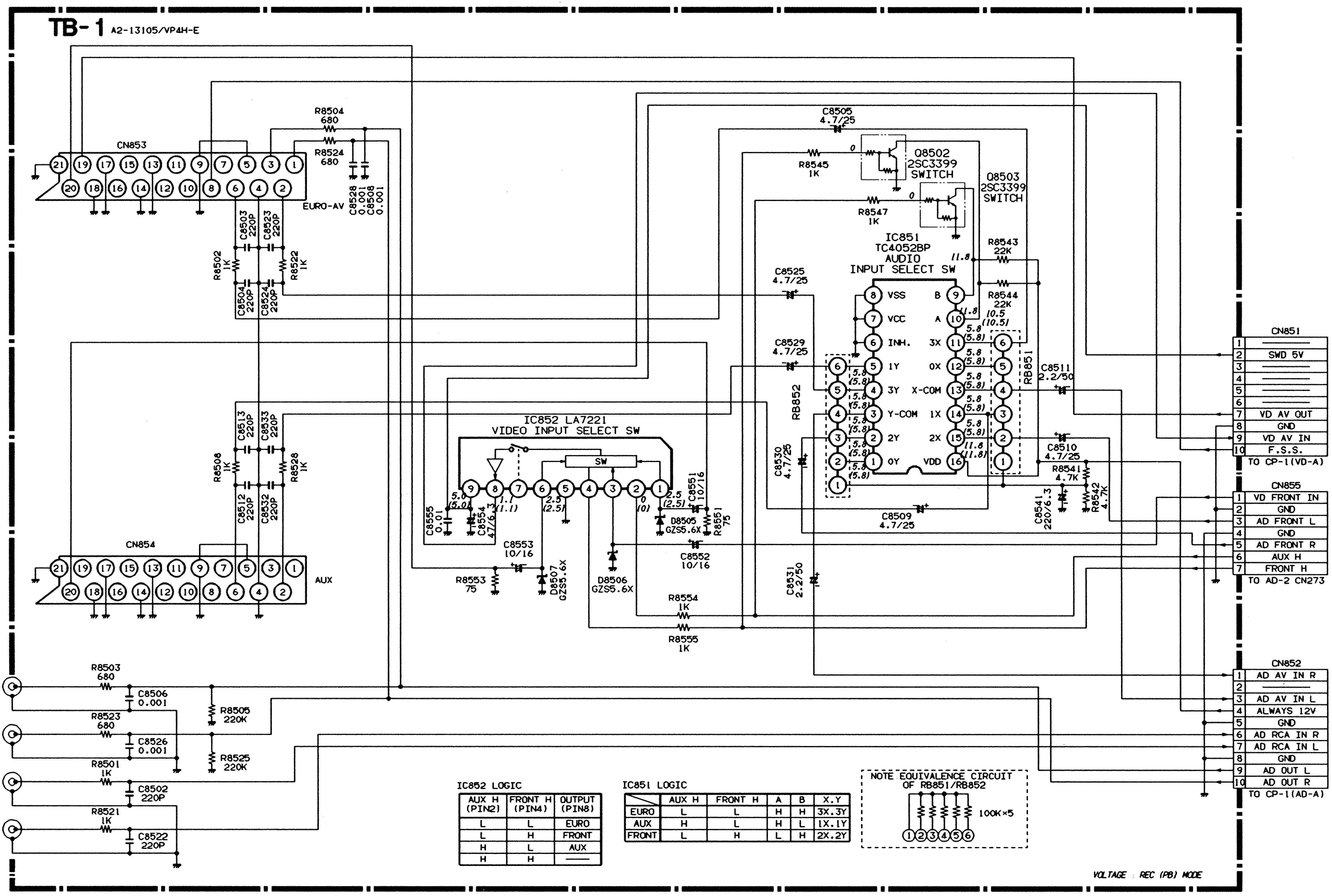
K
J
I
H
G
F
E
D
C
B
A

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

CP-1 BOARD (SV-A) SYSTEM CONTROL & SERVO CIRCUIT DIAGRAM


SV-A
S1-13125/VP4H-E
IC303 LB1641 LOADING MOTOR DRIVE
IC301 μPD78136GF-012-3B9 (24K) SYSTEM CONTROL/DIGITAL SERVO MPU
IC302 MN1280R.S RESET PULSE GEN.
IC352 LA7124
IC391 BA7046 SYNC.GENERATOR
Q3023 2SC3402 SWITCH
Q3024 2SC3402 SWITCH
Q3007 2SC3402 INVERTER
Q3002 2SC536F SENSOR AMP
Q3001 2SC536F SENSOR AMP
Q3006 2SC536F BUFFER
Q3005 2SC2839 AMP
Q3602 2SC3399 SWITCH
Q3952 2SC2839F H-SYNC INSERT
Q3501 2SC536F SWITCH
Q3601 2SC3399 SWITCH
Q3953 2SC3399 INVERTER
XF301 HC-49U (12MHZ)
D3001 1SS244
CN303 WH: GND, SW DATA 1, SW DATA 0, SW DATA 2, ML (+), ML (-), DEW S. TO MC-3 CN822
CN304 BR: GND, SAFETY SW, S.REEL P., SWD 5V, T.REEL P. TO MC-1 CN802
CN302 BR: T.TOP S., GND, T.END S., GND, FL.START SW, GND TO MECHANISM
TO VD-A SSB DATA, SSB CLK
CN352 BR: F/R, C-VS, C-FG2, GND, C-FG1, SWD 5V, ALWAYS 13V(MC), GND(MC) TO MC
CN350: D-PG, GND, D-FG, ALWAYS 13V(MH), H-VS, GND(MH) TO MH
TO PW-A: GND(MH), ALWAYS 13V(MH), GND(MC), ALWAYS 13V(MC)
CN351 WH: CTL HEAD +, CTL HEAD -, GND TO CTL HEAD
ALWAYS 13V(ML), ALWAYS 5.8V, SWD 5V, POWER UP L TO PW-A
INPUT SEL A, A DUB H, INPUT SEL A TO VD-A
ST/L/R, HIFI/NORM, A MUTE H, A-NOR-PB, A-NOR-REC, TRACKING SIG., AF SW P, LP H, REC H TO AD-A
REC H, S PLAY, PB H, INPUT SEL V TO VD-A
ROTARY, PB H TO AD-A
INPUT SEL V, A REC MUTE
AV CTL H, LP H, PB Y, RF SW P, V-LOCK P, C.SYNC TO VD-A
CN354: S PLAY, LP H, H AMP SW, ENV SW, SWD 5V TO VP-1 CN182
TP351 TP353
NOTE • VOLTAGE : REC(PB) MODE
• NOT SPECIFIED DIODE...1SS133 OR GMA01
K J I H G F E D C B A
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

TB-1 BOARD TERMINAL & INPUT SELECT CIRCUIT DIAGRAM


TB-1 A2-13105/VP4H-E
CN853
EURO-AV
CN854
AUX
R8504 680
R8524 680
C8528 0.001
C8508 0.001
C8503 220P
C8523 220P
C8504 220P
C8524 220P
R8502 1K
R8522 1K
C8513 220P
C8533 220P
C8512 220P
C8532 220P
R8508 1K
R8528 1K
C8505 4.7/25
R8545 1K
Q8502 2SC3399 SWITCH
Q8503 2SC3399 SWITCH
R8547 1K
IC851 TC4052BP AUDIO INPUT SELECT SW
R8543 22K
R8544 22K
C8525 4.7/25
C8529 4.7/25
RB852
RB851
C8511 2.2/50
C8510 4.7/25
R8541 4.7K
R8542 4.7K
C8541 220/6.3
C8509 4.7/25
C8530 4.7/25
C8531 2.2/50
IC852 LA7221 VIDEO INPUT SELECT SW
SW
C8555 0.01
C8554 47/6.3
C8553 10/16
C8551 10/16
C8552 10/16
D8505 GZS5.6X
D8506 GZS5.6X
D8507 GZS5.6X
R8551 75
R8553 75
R8554 1K
R8555 1K
JK853 AD LCH OUT
JK854 AD RCH OUT
JK851 AD LCH IN
JK852 AD RCH IN
R8503 680
R8523 680
C8506 0.001
C8526 0.001
R8505 220K
R8525 220K
R8501 1K
R8521 1K
C8502 220P
C8522 220P
CN851
1 ————
2 SWD 5V
3 ————
4 ————
5 ————
6 ————
7 VD AV OUT
8 GND
9 VD AV IN
10 F.S.S.
TO CP-1(VD-A)
CN855
1 VD FRONT IN
2 GND
3 AD FRONT L
4 GND
5 AD FRONT R
6 AUX H
7 FRONT H
TO AD-2 CN273
CN852
1 AD AV IN R
2 ————
3 AD AV IN L
4 ALWAYS 12V
5 GND
6 AD RCA IN R
7 AD RCA IN L
8 GND
9 AD OUT L
10 AD OUT R
TO CP-1(AD-A)
NOTE EQUIVALENCE CIRCUIT OF RB851/RB852
100K×5
①②③④⑤⑥
VOLTAGE : REC (PB) MODE

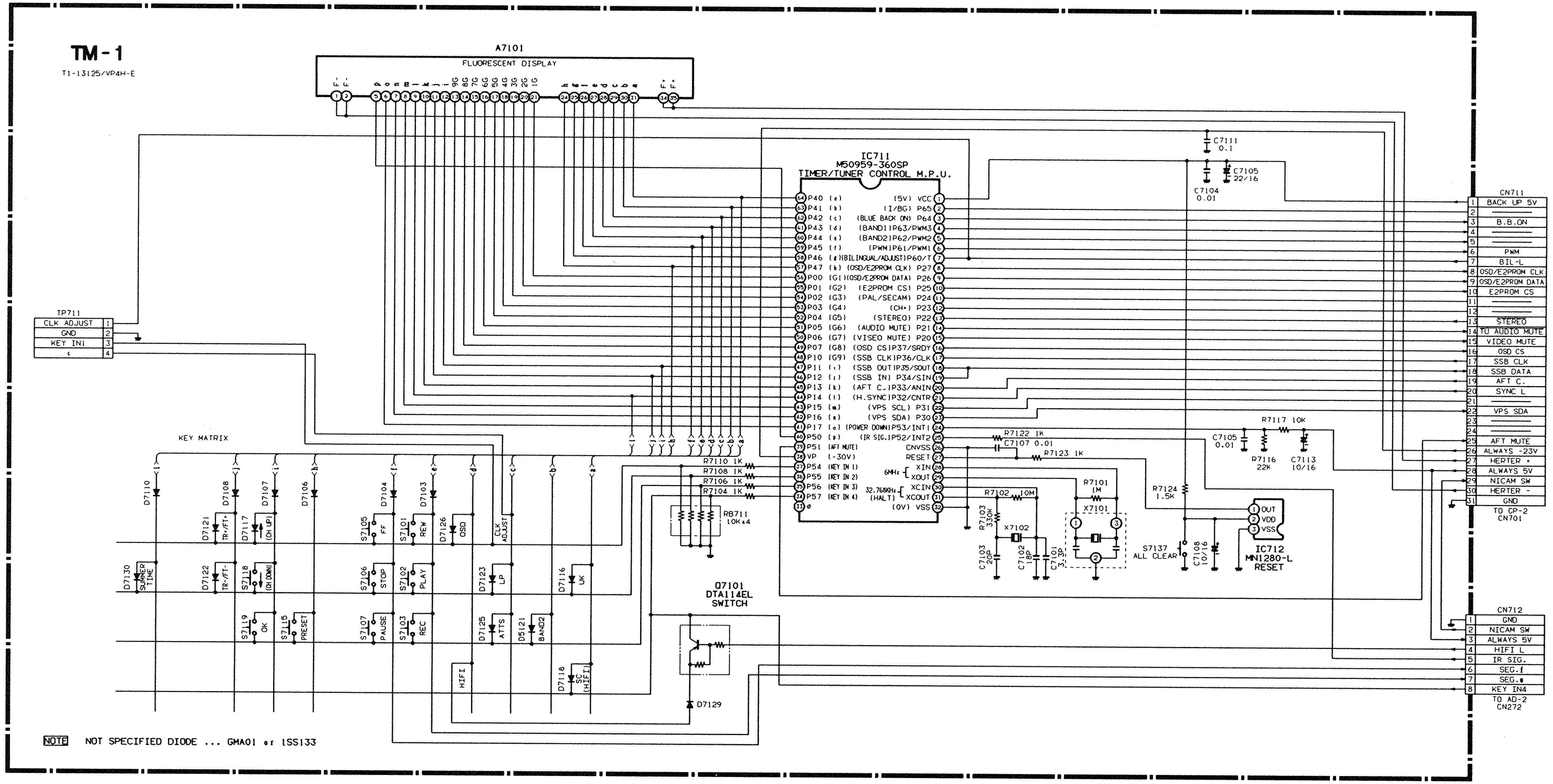
IC852 LOGIC

AUX H (PIN2)	FRONT H (PIN4)	OUTPUT (PIN8)
L	L	EURO
L	H	FRONT
H	L	AUX
H	H	——

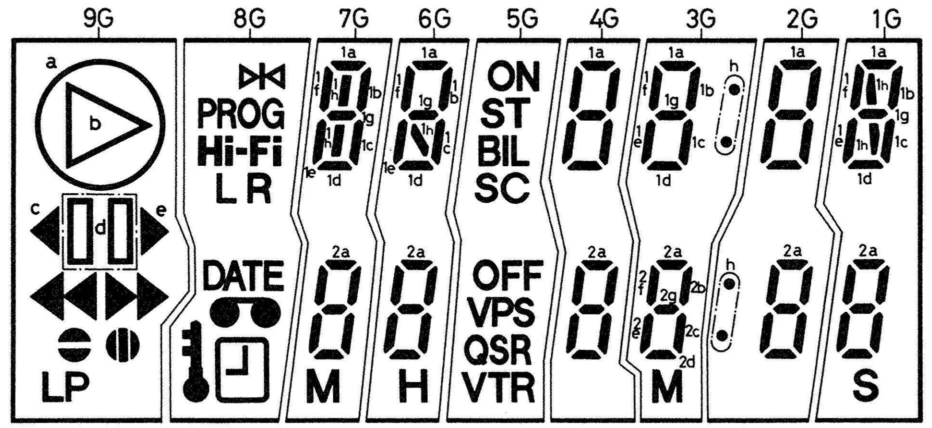
IC851 LOGIC

	AUX H	FRONT H	A	B	X.Y
EURO	L	L	H	H	3X.3Y
AUX	H	L	H	L	1X.1Y
FRONT	L	H	L	H	2X.2Y

TM-1 BOARD TIMER & TUNING CONTROL CIRCUIT DIAGRAM


TM-1
T1-13125/VP4H-E
A7101
FLUORESCENT DISPLAY
IC711
M50959-360SP
TIMER/TUNER CONTROL M.P.U.
64 P40 (a)
63 P41 (b)
62 P42 (c)
61 P43 (d)
60 P44 (e)
59 P45 (f)
58 P46 (g)
57 P47 (h)
56 P00 (G1)
55 P01 (G2)
54 P02 (G3)
53 P03 (G4)
52 P04 (G5)
51 P05 (G6)
50 P06 (G7)
49 P07 (G8)
48 P10 (G9)
47 P11 (i)
46 P12 (j)
45 P13 (k)
44 P14 (l)
43 P15 (m)
42 P16 (n)
41 P17 (o)
40 P50 (p)
39 P51 (AFT MUTE)
38 VP (-30V)
37 P54 (KEY IN 1)
36 P55 (KEY IN 2)
35 P56 (KEY IN 3)
34 P57 (KEY IN 4)
33 ø
(5V) VCC 1
(I/BG) P65 2
(BLUE BACK ON) P64 3
(BAND1) P63/PWM3 4
(BAND2) P62/PWM2 5
(PWM) P61/PWM1 6
(BILINGUAL/ADJUST) P60/T 7
(OSD/E2PROM CLK) P27 8
(OSD/E2PROM DATA) P26 9
(E2PROM CS) P25 10
(PAL/SECAM) P24 11
(CH+) P23 12
(STEREO) P22 13
(AUDIO MUTE) P21 14
(VISEO MUTE) P20 15
(OSD CS) P37/SRDY 16
(SSB CLK) P36/CLK 17
(SSB OUT) P35/SOUT 18
(SSB IN) P34/SIN 19
(AFT C.) P33/ANIN 20
(H.SYNC) P32/CNTR 21
(VPS SCL) P31 22
(VPS SDA) P30 23
(POWER DOWN) P53/INT1 24
(IR SIG.) P52/INT2 25
CNVSS 26
RESET 27
6MHz XIN 28
XOUT 29
32.768KHz (HALT) XCIN 30
XCOUT 31
(0V) VSS 32
C7111 0.1
C7105 22/16
C7104 0.01
R7122 1K
C7107 0.01
R7123 1K
C7105 0.01
R7117 10K
R7116 22K
C7113 10/16
R7124 1.5K
R7102 10M
R7101 1M
R7103 330K
X7102
X7101
C7103 20P
C7102 18P
C7101 3.9P
S7137 ALL CLEAR
C7108 10/16
IC712 MN1280-L RESET
OUT
VDD
VSS
R7110 1K
R7108 1K
R7106 1K
R7104 1K
RB711 10K×4
Q7101 DTA114EL SWITCH
D7129
TP711
1 CLK ADJUST
2 GND
3 KEY IN1
4 ε
KEY MATRIX
D7110
D7108
D7107
D7106
D7104
D7103
D7121 TR+/FT+
D7117 (CH UP)
S7105 FF
S7101 REW
D7126 OSD
CLK ADJUST
D7130 SUMMER TIME
D7122 TR-/FT-
S7118 (CH DOWN)
S7106 STOP
S7102 PLAY
D7123 LP
D7116 UK
S7119 OK
S7115 PRESET
S7107 PAUSE
S7103 REC
D7125 ATTS
D5121 BAND2
HIFI
D7118 SC (HIFI)
CN711
1 BACK UP 5V
2
3 B.B.ON
4
5
6 PWM
7 BIL-L
8 OSD/E2PROM CLK
9 OSD/E2PROM DATA
10 E2PROM CS
11
12
13 STEREO
14 TU AUDIO MUTE
15 VIDEO MUTE
16 OSD CS
17 SSB CLK
18 SSB DATA
19 AFT C.
20 SYNC L
21
22 VPS SDA
23
24
25 AFT MUTE
26 ALWAYS -23V
27 HERTER +
28 ALWAYS 5V
29 NICAM SW
30 HERTER -
31 GND
TO CP-2 CN701
CN712
1 GND
2 NICAM SW
3 ALWAYS 5V
4 HIFI L
5 IR SIG.
6 SEG.f
7 SEG.●
8 KEY IN4
TO AD-2 CN272
NOTE NOT SPECIFIED DIODE ... GMA01 or 1SS133

A7001 DISPLAY GRID/ANODE ASSIGNMENT

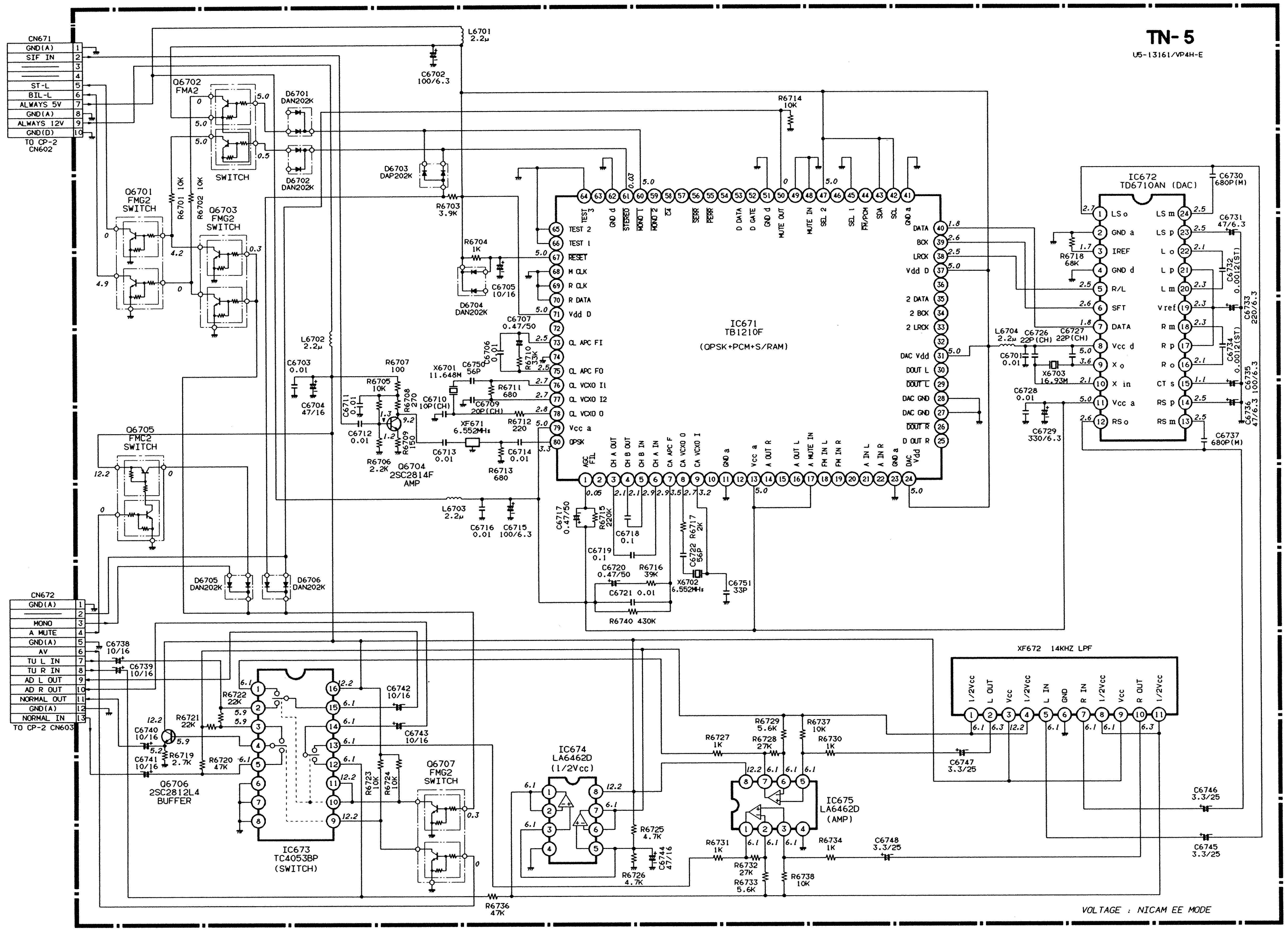

9G
8G
7G
6G
5G
4G
3G
2G
1G
a
b
c
d
e
PROG
Hi-Fi
L R
ON
ST
BIL
SC
DATE
OFF
VPS
QSR
VTR
LP
M
H
M
S
1a
1b
1c
1d
1e
1f
1g
1h
2a
2b
2c
2d
2e
2f
2g

A7001 DISPLAY TABLE OF GRID/ANODE CONNECTION

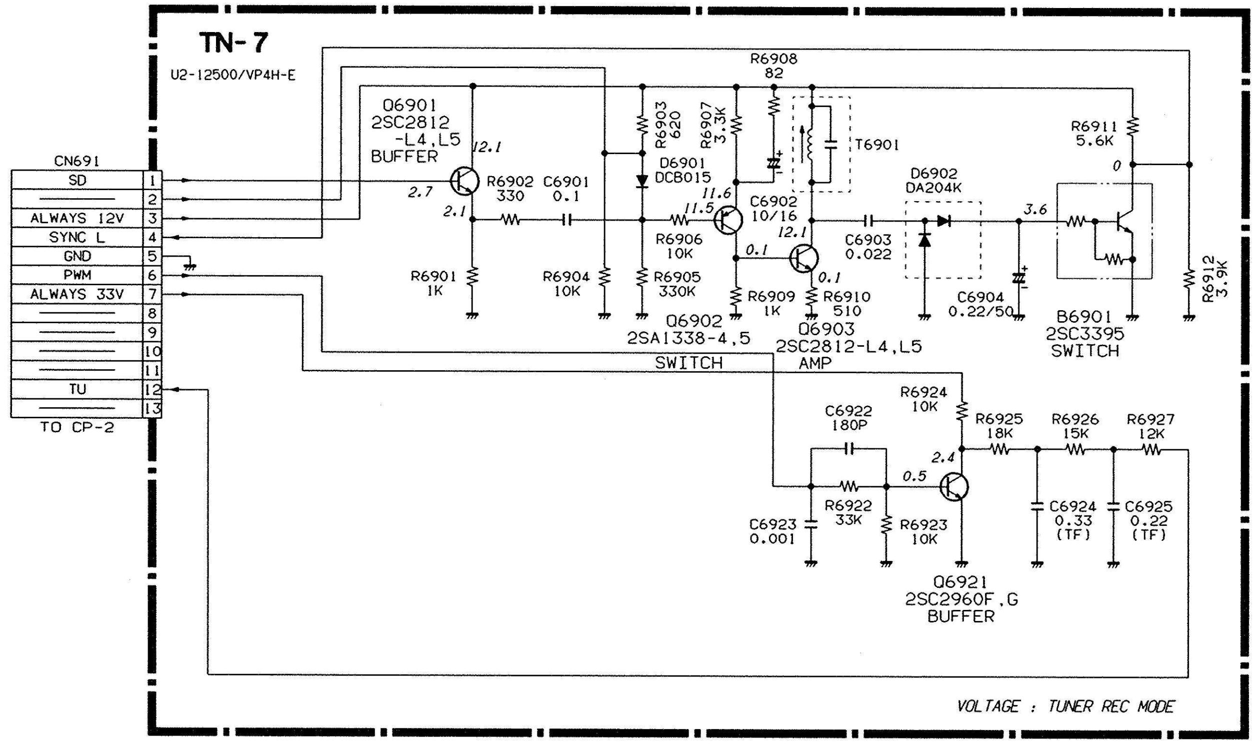
	9G	8G	7G	6G	5G	4G	3G	2G	1G
a	○	¤	1a	1a	**ON**	1a	1a	1a	1a
b	▷	⋈	1b	1b	**ST**	1b	1b	1b	1b
c	◀	**PROG**	1c	1c	**BIL**	1c	1c	1c	1c
d	▯▯	**Hi-Fi**	1d	1d	**SC**	1d	1d	1d	1d
e	▶	**L**	1e	1e	–	1e	1e	1e	1e
f	–	**R**	1f	1f	–	1f	1f	1f	1f
g	–	–	1g	1g	–	1g	1g	1g	1g
h	–	–	1h	1h	–	–	: (UPPER)	: (LOWER)	1h
i	◀◀	**DATE**	2a	2a	**OFF**	2a	2a	2a	2a
j	▶▶	●●	2b	2b	**VPS**	2b	2b	2b	2b
k	⊖	🌡	2c	2c	**QSR**	2c	2c	2c	2c
l	◍	◷	2d	2d	**VTR**	2d	2d	2d	2d
m	**LP**	–	2e	2e	–	2e	2e	2e	2e
n	**EP**	–	2f	2f	–	2f	2f	2f	2f
o	–	–	2g	2g	–	2g	2g	2g	2g
p	–	–	**M**	**H**	–	**H**	**M**	**M**	**S**

9G/QP

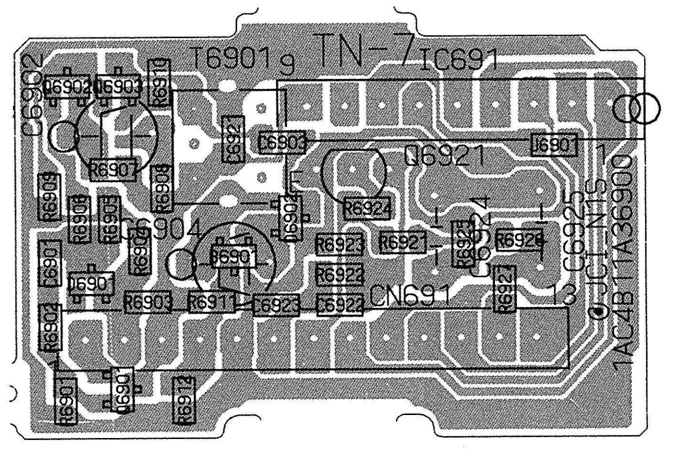
TN-5 BOARD NICAM DECODER CIRCUIT DIAGRAM


TN-5
U5-13161/VP4H-E
CN671
GND(A)
SIF IN
ST-L
BIL-L
ALWAYS 5V
GND(A)
ALWAYS 12V
GND(D)
TO CP-2 CN602
Q6702 FMA2
SWITCH
Q6701 FMG2 SWITCH
Q6703 FMG2 SWITCH
Q6705 FMC2 SWITCH
D6701 DAN202K
D6702 DAN202K
D6703 DAP202K
D6704 DAN202K
D6705 DAN202K
D6706 DAN202K
L6701 2.2μ
C6702 100/6.3
IC671 TB1210F
(QPSK+PCM+S/RAM)
Q6704 2SC2814F AMP
X6701 11.648M
XF671 6.552MHz
X6702 6.552MHz
IC672 TD6710AN (DAC)
X6703 16.93M
CN672
GND(A)
MONO
A MUTE
GND(A)
AV
TU L IN
TU R IN
AD L OUT
AD R OUT
NORMAL OUT
GND(A)
NORMAL IN
TO CP-2 CN603
Q6706 2SC2812L4 BUFFER
IC673 TC4053BP (SWITCH)
IC674 LA6462D (1/2Vcc)
IC675 LA6462D (AMP)
Q6707 FMG2 SWITCH
XF672 14KHZ LPF
R6740 430K
R6736 47K
VOLTAGE : NICAM EE MODE

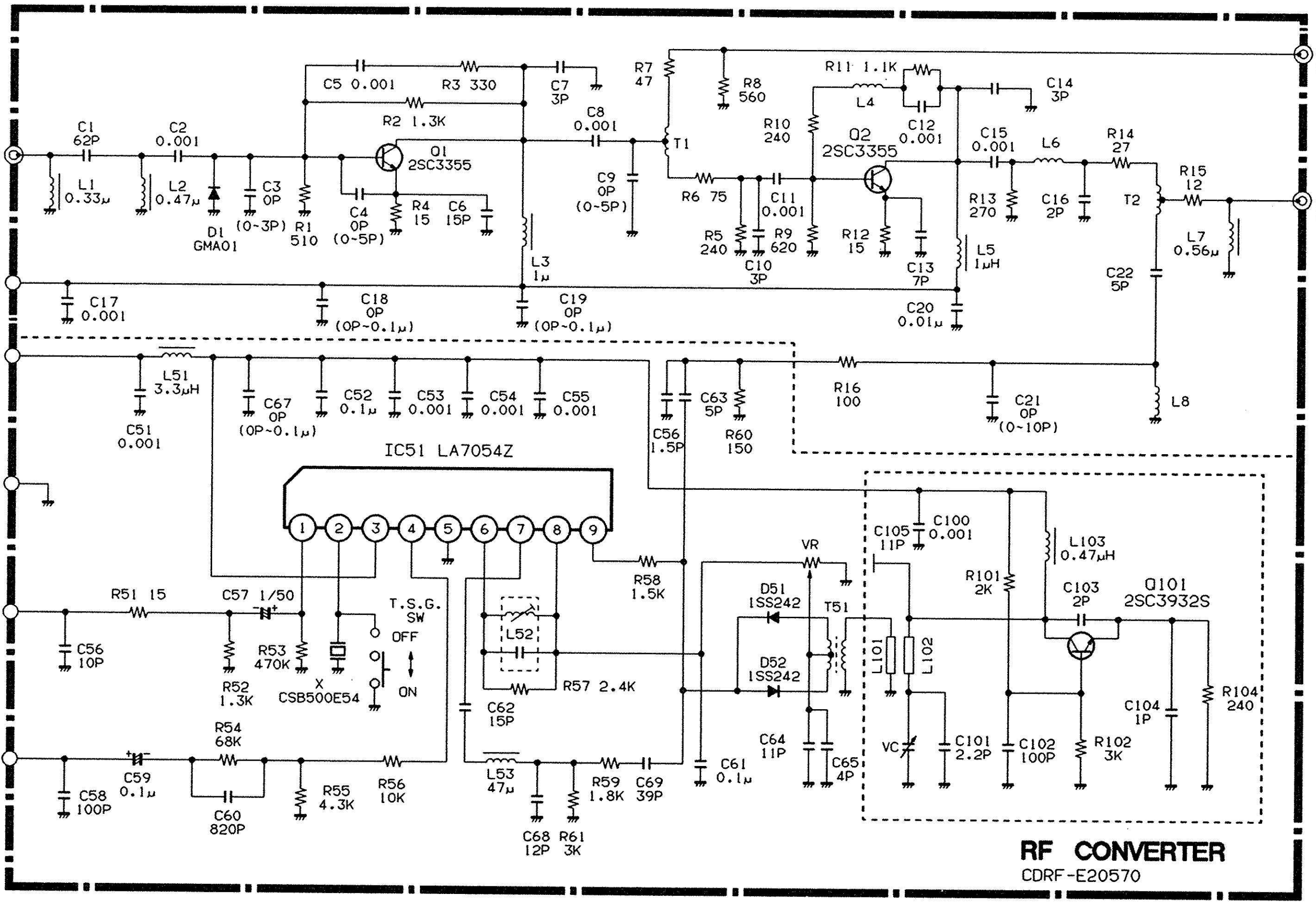
TN-7 BOARD SYNC DETECTOR CIRCUIT DIAGRAM


TN-7
U2-12500/VP4H-E
CN691
SD
ALWAYS 12V
SYNC L
GND
PWM
ALWAYS 33V
TU
TO CP-2
Q6901 2SC2812-L4,L5 BUFFER
D6901 DCB015
T6901
D6902 DA204K
B6901 2SC3395 SWITCH
Q6902 2SA1338-4,5 SWITCH
Q6903 2SC2812-L4,L5 AMP
Q6921 2SC2960F,G BUFFER
VOLTAGE : TUNER REC MODE

TN-7 P.C.B.

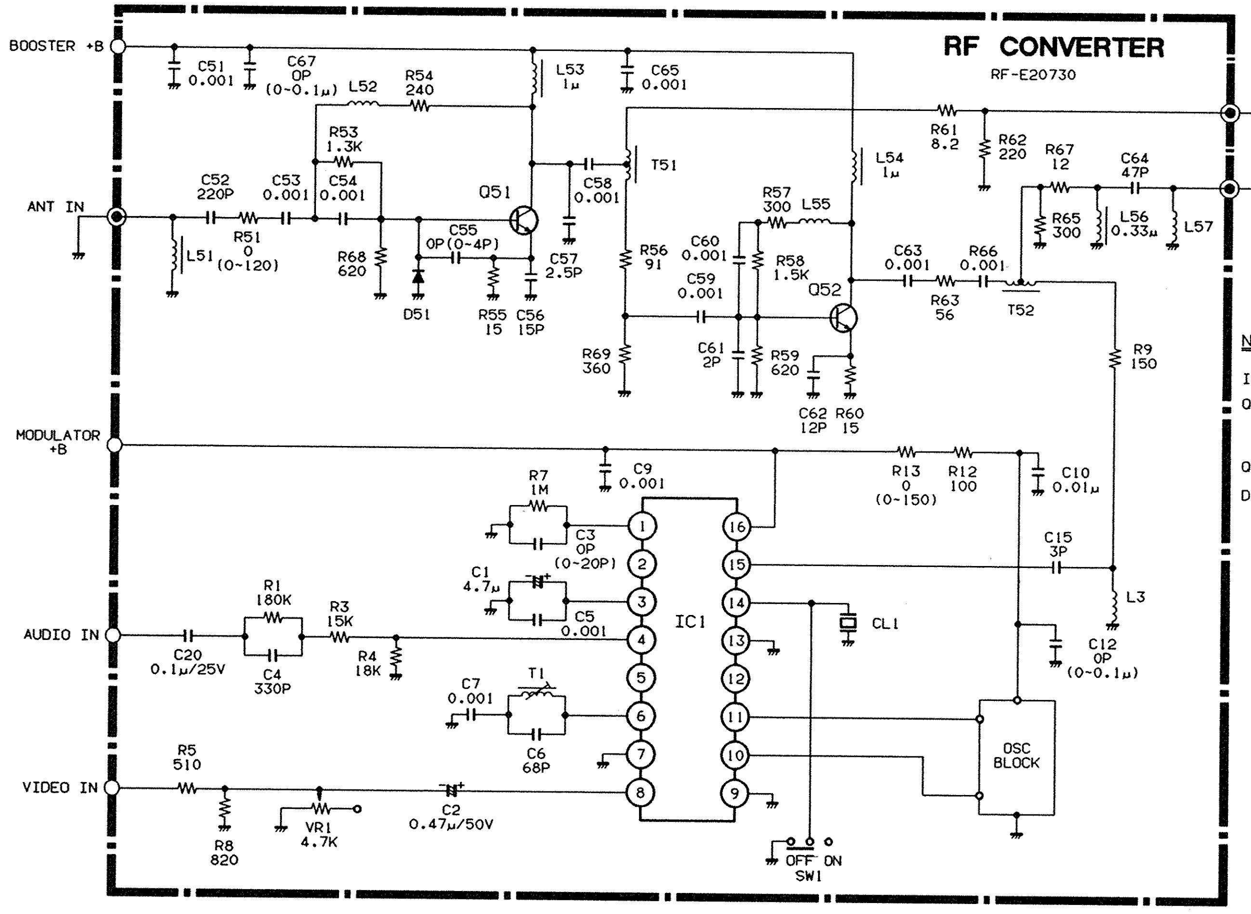

TN-7
T6901
IC691
Q6921
CN691
1AC4B11A36900

RF CONVERTER CIRCUIT DIAGRAM


ANT IN
BOOSTER+B (ALWAYS 5V)
MODULATOR+B (SWD 5V)
GND
VD IN
AD IN
TUNER OUT
ANT OUT
Q1 2SC3355
Q2 2SC3355
IC51 LA7054Z
Q101 2SC3932S
D1 GMA01
D51 1SS242
D52 1SS242
X CSB500E54
T.S.G. SW
OFF
ON
VR
T51
L52
RF CONVERTER
CDRF-E20570

Note: Either one of these RF converters, type CDRF-E20570 or CDRF-E20730 is used, depending on availability.

RF CONVERTER CIRCUIT DIAGRAM


RF CONVERTER
RF-E20730
BOOSTER +B
ANT IN
MODULATOR +B
AUDIO IN
VIDEO IN
VTR TU
ANT OUT
Q51
Q52
T51
T52
D51
IC1
CL1
OSC BLOCK
SW1
OFF
ON
VR1 4.7K

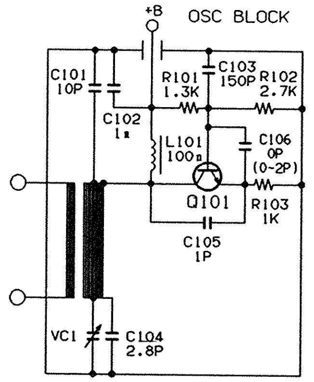
NOTE

IC1 : ALP102, ALP102A OR EQUIVALENT

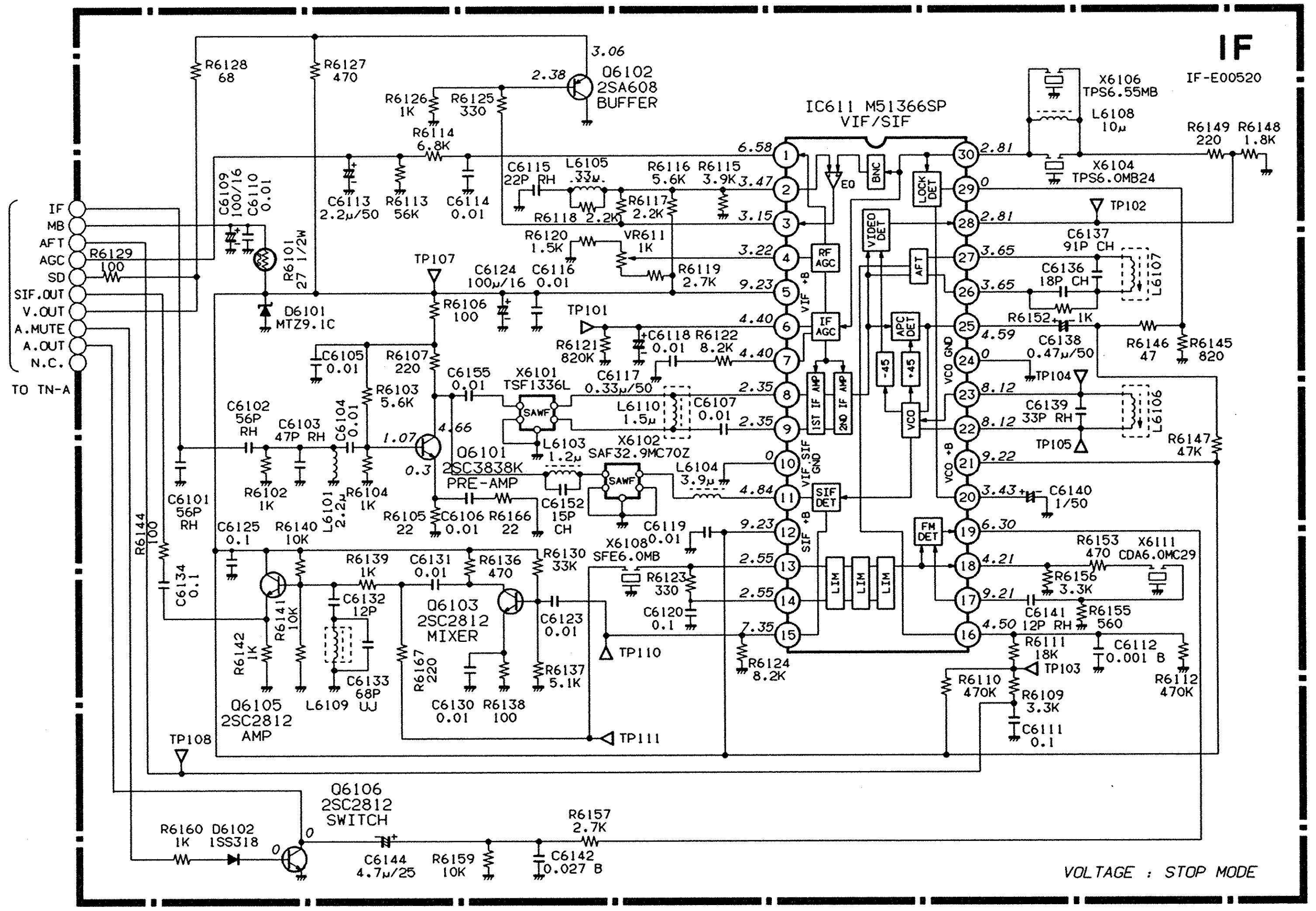
Q51, Q52: 2SC2570, 2SC3355, MPS571, MPS911, OR EQUIVALENT

Q101 : 2SC2480 OR EQUIVALENT

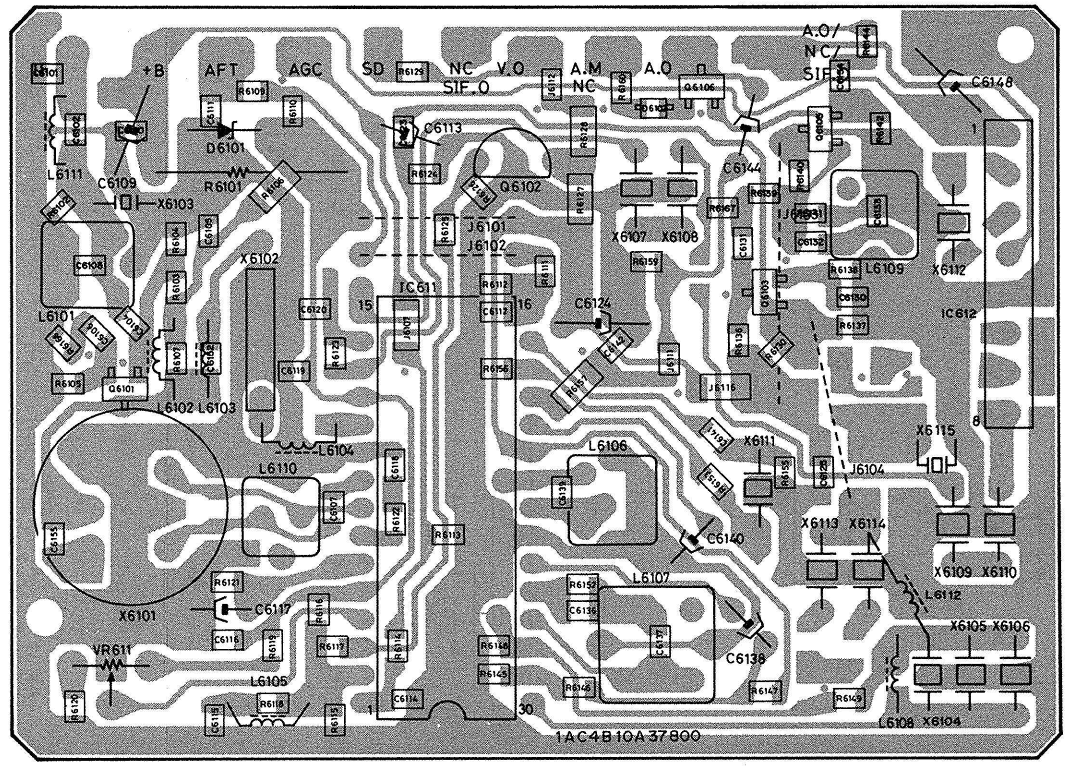
D51 : 1SS133, 1SS83 OR EQUIVALENT


+B
OSC BLOCK
C101 10P
C102 1μ
R101 1.3K
C103 150P
R102 2.7K
L101 100n
C106 0P (0-2P)
Q101
R103 1K
C105 1P
VC1
C104 2.8P

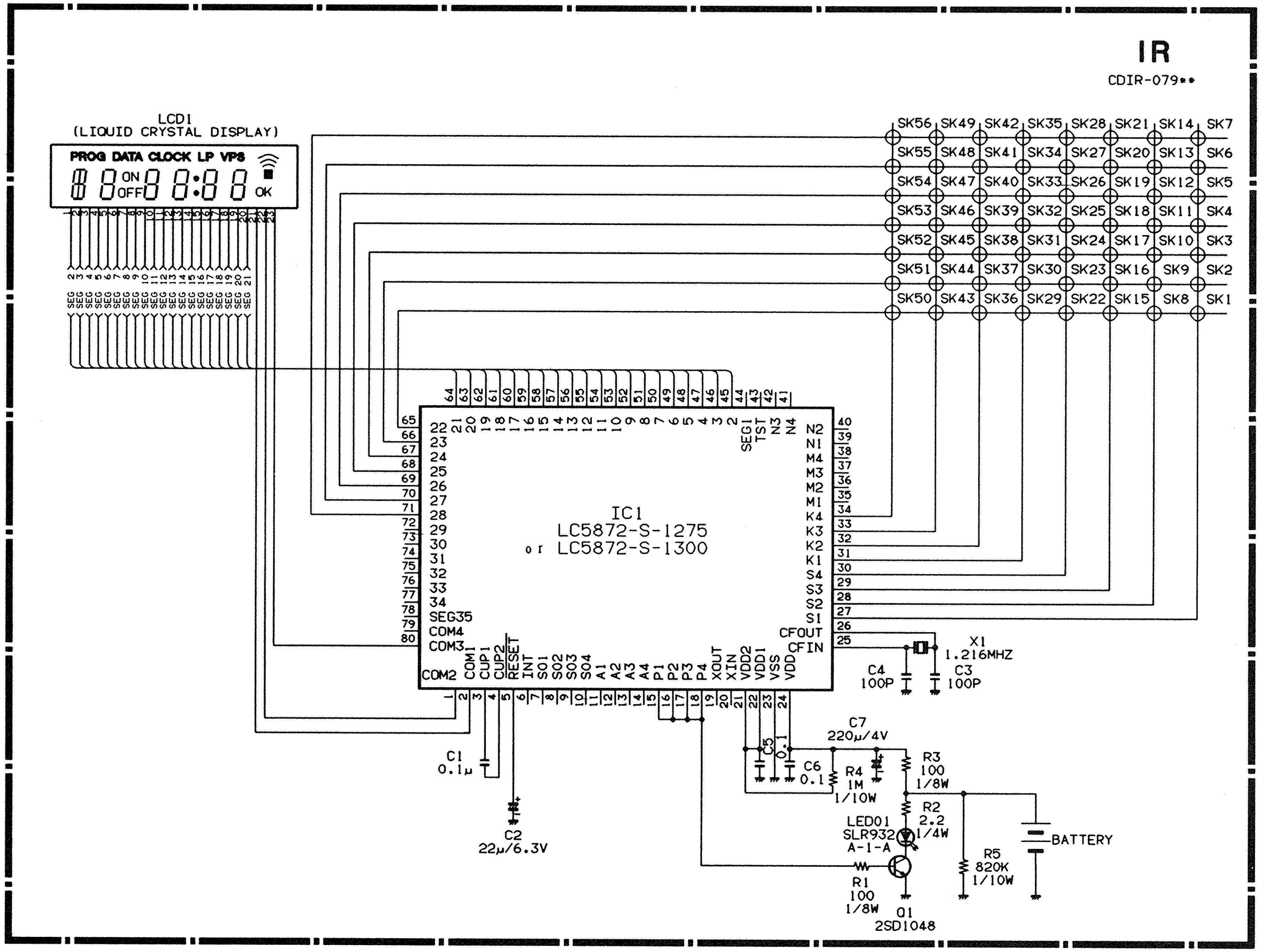
IF CIRCUIT DIAGRAM


IF
IF-E00520
IF
MB
AFT
AGC
SD
SIF.OUT
V.OUT
A.MUTE
A.OUT
N.C.
TO TN-A
IC611 M51366SP
VIF/SIF
Q6102 2SA608 BUFFER
Q6101 2SC3838K PRE-AMP
Q6103 2SC2812 MIXER
Q6105 2SC2812 AMP
Q6106 2SC2812 SWITCH
D6101 MTZ9.1C
D6102 1SS318
X6101 TSF1336L
X6102 SAF32.9MC70Z
X6104 TPS6.0MB24
X6106 TPS6.55MB
X6108 SFE6.0MB
X6111 CDA6.0MC29
VR611 1K
TP101
TP102
TP103
TP104
TP105
TP107
TP108
TP110
TP111
VOLTAGE : STOP MODE

IF P.C.B.


+B
AFT
AGC
SD
NC
V.O
SIF.O
A.M
NC
A.O
A.O/NC
SIF
IC611
IC612
Q6102
Q6113
D6101
X6101
X6102
X6107
X6108
X6109
X6110
X6111
X6113
X6114
X6115
X6104
X6105
X6106
L6101
L6102
L6103
L6104
L6105
L6106
L6107
L6108
L6109
L6110
L6111
L6112
VR611
J6101
J6102
J6103
J6104
C6144
C6148
C6140
C6138
C6124
C6117
C6109
1AC4B10A37800

IR REMOTE CONTROL CIRCUIT DIAGRAM

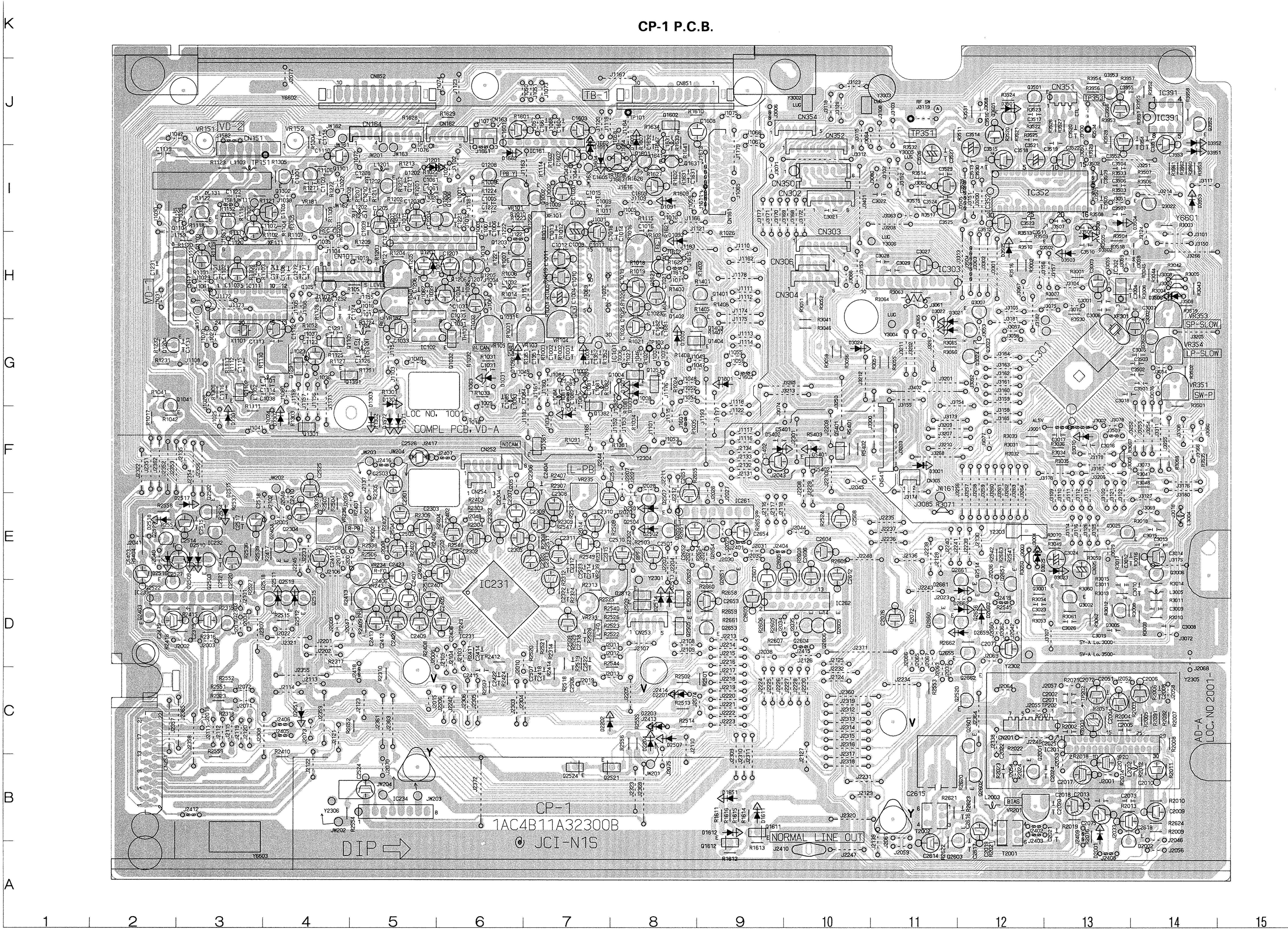

IR
CDIR-079**
LCD1
(LIQUID CRYSTAL DISPLAY)
PROG DATA CLOCK LP VPS
ON
OFF
OK
SEG2 … SEG21
IC1
LC5872-S-1275
or LC5872-S-1300
SEG1
TST
N3
N4
N2
N1
M4
M3
M2
M1
K4
K3
K2
K1
S4
S3
S2
S1
CFOUT
CFIN
SEG35
COM4
COM3
COM2
COM1
CUP1
CUP2
RESET
INT
SO1
SO2
SO3
SO4
A1
A2
A3
A4
P1
P2
P3
P4
XOUT
XIN
VDD2
VDD1
VSS
VDD
SK56 SK49 SK42 SK35 SK28 SK21 SK14 SK7
SK55 SK48 SK41 SK34 SK27 SK20 SK13 SK6
SK54 SK47 SK40 SK33 SK26 SK19 SK12 SK5
SK53 SK46 SK39 SK32 SK25 SK18 SK11 SK4
SK52 SK45 SK38 SK31 SK24 SK17 SK10 SK3
SK51 SK44 SK37 SK30 SK23 SK16 SK9 SK2
SK50 SK43 SK36 SK29 SK22 SK15 SK8 SK1
X1
1.216MHZ
C4
100P
C3
100P
C7
220μ/4V
C5
0.1
C6
0.1
R4
1M
1/10W
R3
100
1/8W
R2
2.2
1/4W
LED01
SLR932
A-1-A
BATTERY
R5
820K
1/10W
R1
100
1/8W
Q1
2SD1048
C1
0.1μ
C2
22μ/6.3V

AVAILABLE KEY FUNCTION OF REMOTE CONTROL UNIT

KEY NO.	FUNCTION		KEY NO.	FUNCTION		KEY NO.	FUNCTION	
1	POWER	USE	23	7	USE	45	INDEX	USE
2	SUBTITLE		24	8	USE	46	RESET	USE
3	VPS		25	9	USE	47	MEMORY	USE
4	SP/LP	USE	26	▼ CH-	USE	48	MARK	USE
5	TRANS	USE	27	■ STOP	USE	49	C.DISP	USE
6	● REC	USE	28	MODE+	USE	50	ATR	USE
7	A.DUB		29	OSA	USE	51	◀◀ REW/⏪	USE
8	CLOCK	USE	30	CL	USE	52	PLAY ▶	USE
9	1	USE	31	0/AV	USE	53		
10	2	USE	32	OK	USE	54	⏩/FF ▶▶	USE
11	3	USE	33	MONITOR	USE	55	SC	USE
12	VCR/TV		34	▮▮ PAUSE/STILL	USE			
13	● REC	USE	35	SLOW	USE			
14	INSERT		36	VPT				
15	PROG	USE	37	RED				
16	4	USE	38	GREEN				
17	5	USE	39	YELLOW				
18	6	USE	40	BLUE				
19	▲ CH+	USE	41	ERASE	USE			
20	■ STOP	USE	42	A.SEL	USE			
21	MODE-	USE	43	TEXT				
22	CHECK	USE	44	SPECIAL	USE			

IR-07914

CP-1 P.C.B.


K
J
I
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G
F
E
D
C
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A
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15
CP-1
1AC4B11A32300B
JCI-N1S
DIP
NORMAL LINE OUT
LOC NO. 1001
COMPL PCB VD-A
AD-A
LOC.NO 2001
VD-1
VD-2
TB-1
L-PB
R-PB
R-FO
L-FO
NICAM
BIAS
SP-SLOW
LP-SLOW
SW-P
IC231
IC301
IC303
IC352
IC391
IC101
IC102
IC232
IC233
IC234
IC261
IC262
CN851
CN852
CN351
CN352
CN354
CN302
CN303
CN304
CN306
CN350
CN101
CN151
CN162
CN164
CN252
CN253
CN254
CN541
TP351
TP353
VR351
VR353
VR354
SV-A Lo.3000
SV-A Lo.3500

K

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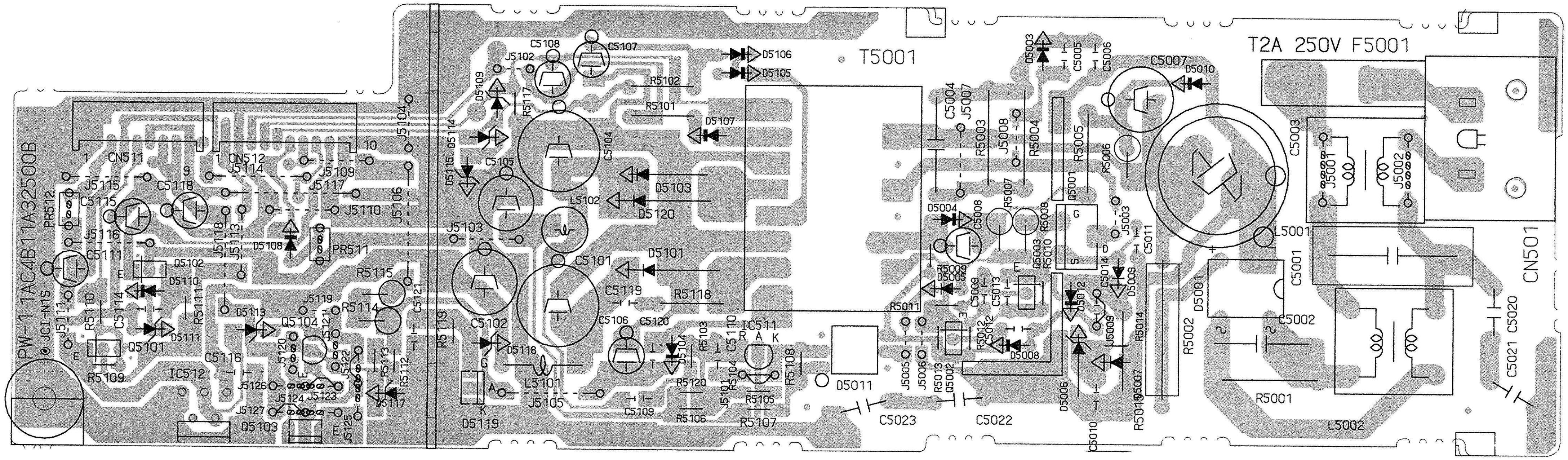
A

PW-1 P.C.B.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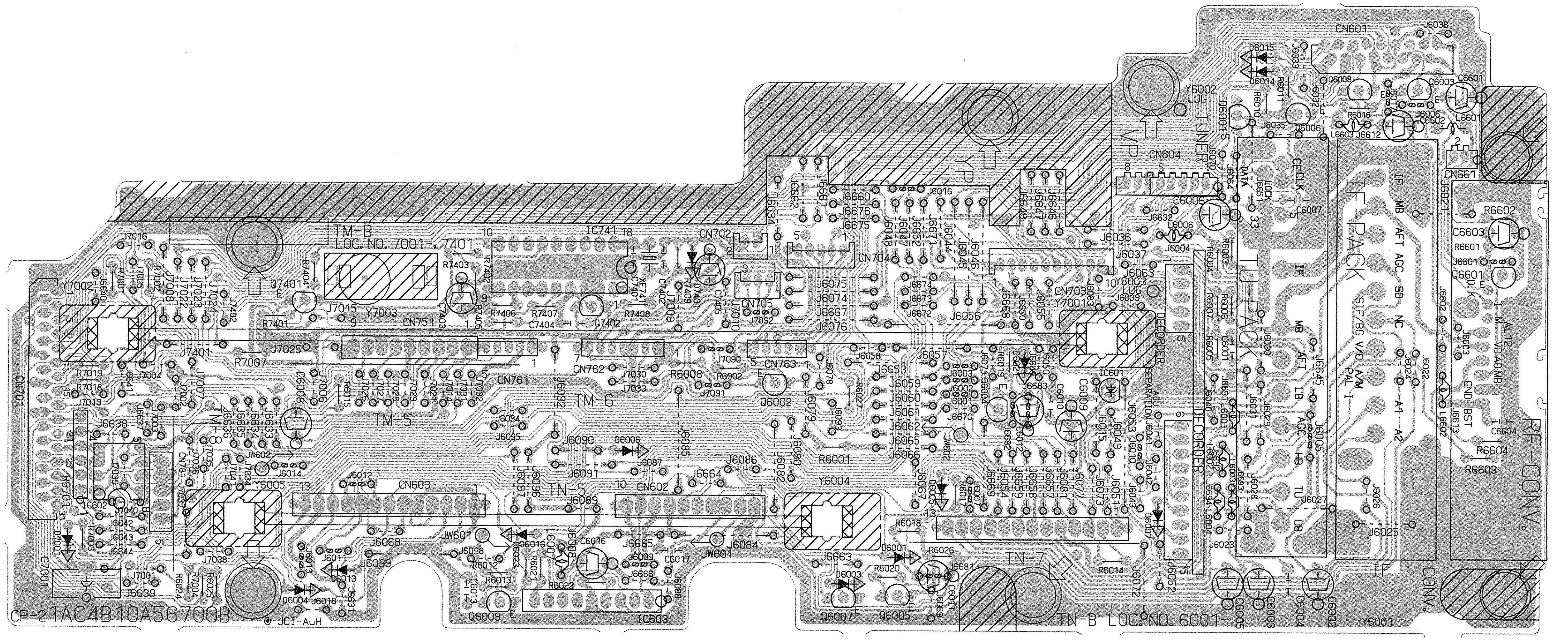
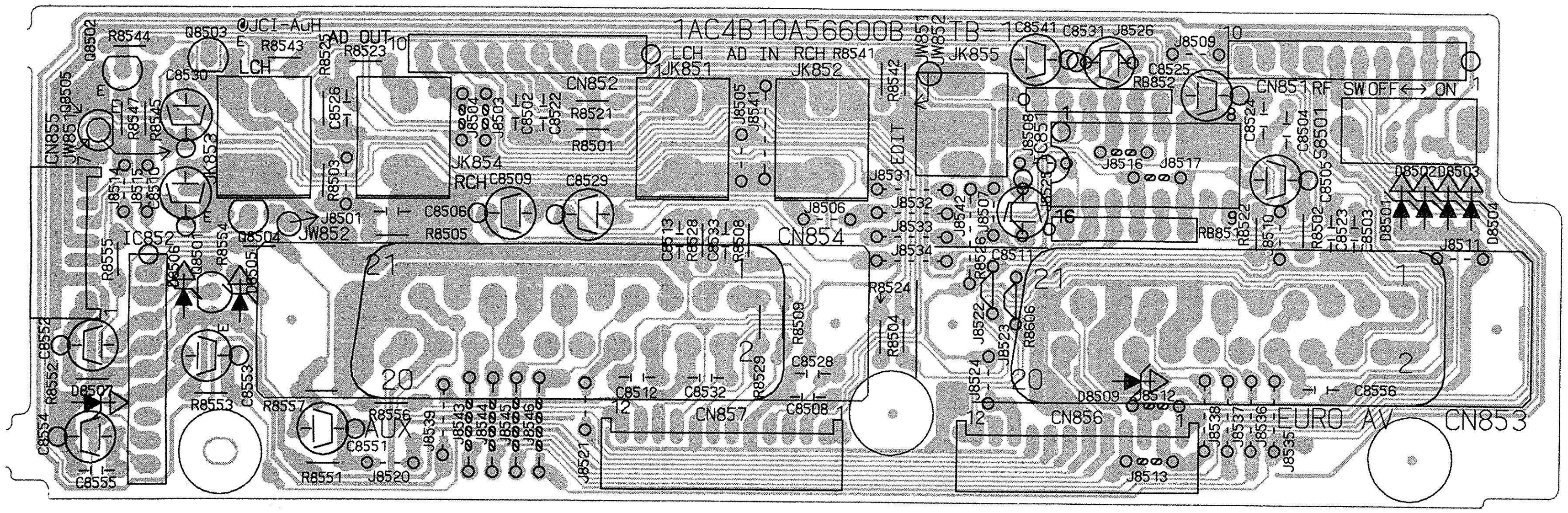
CN511
CN512
T5001
T2A 250V F5001
CN501
C5007
C5003
L5001
L5002
R5001
D5001
D5011
C5023
C5022
C5001
C5002
C5020
C5021
J5001
J5002
IC511
IC512
Q5101
Q5102
Q5103
Q5104
L5101
L5102
C5101
C5102
C5104
C5105
C5106
C5107
C5108
D5101
D5103
D5105
D5106
D5107
D5119
D5120
R5101
R5102
R5118
J5102
J5103
J5105
PR511
PR512

CP-2 P.C.B.


CP-2 1AC4B10A56700B
JCI-AuH
TM-B
LOC. NO. 7001-7401-
TM-5
TM-6
TN-5
TN-7
TN-B LOC. NO. 6001-
IC741
IC601
IC603
CN601
CN602
CN603
CN604
CN661
CN701
CN702
CN703
CN704
CN705
CN751
CN761
CN762
CN763
Y6001
Y6002 LUG
Y6004
Y6005
Y7001
Y7002
Y7003
Q7401
Q7402
Q6001
Q6002
Q6005
Q6007
Q6009
VP
YP
TUNER
TU-PACK
IF-PACK
DECODER
SEPARATION ADJ
RF-CONV.
CONV.
IF
MB
AFT
AGC
SD
NC
SIF/BG
V/O
PAL
A/M
LB
HB
TU
UB
A1
A2
DATA
LOCK
CE
CLK
33
AL12
VD
AD
MB
GND
BST
C6601
C6603
C6604
R6601
R6602
R6603
R6604
L6601
L6602
L6603

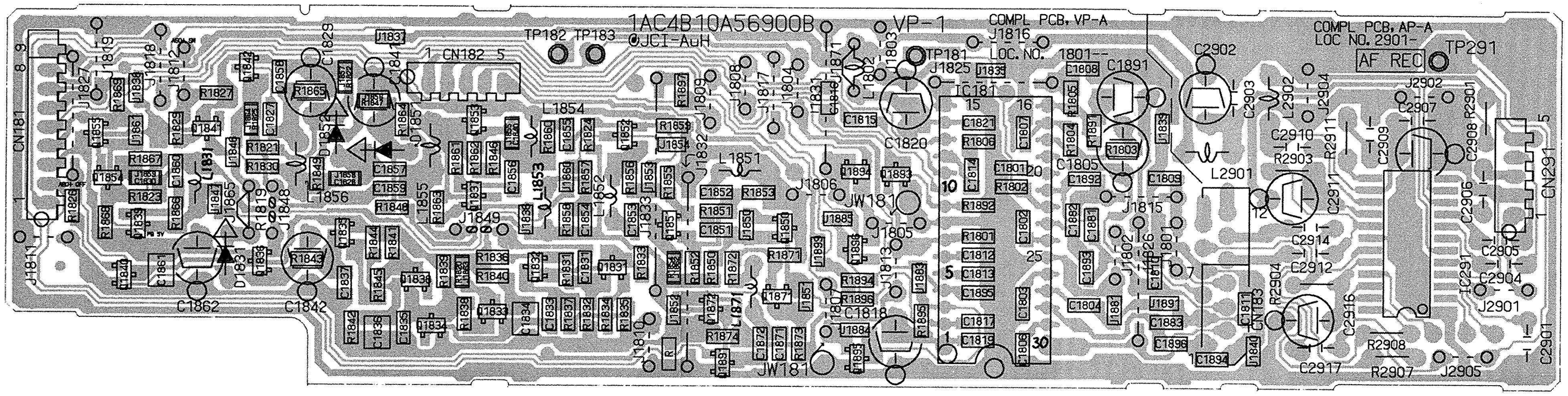
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

TB-1 P.C.B.



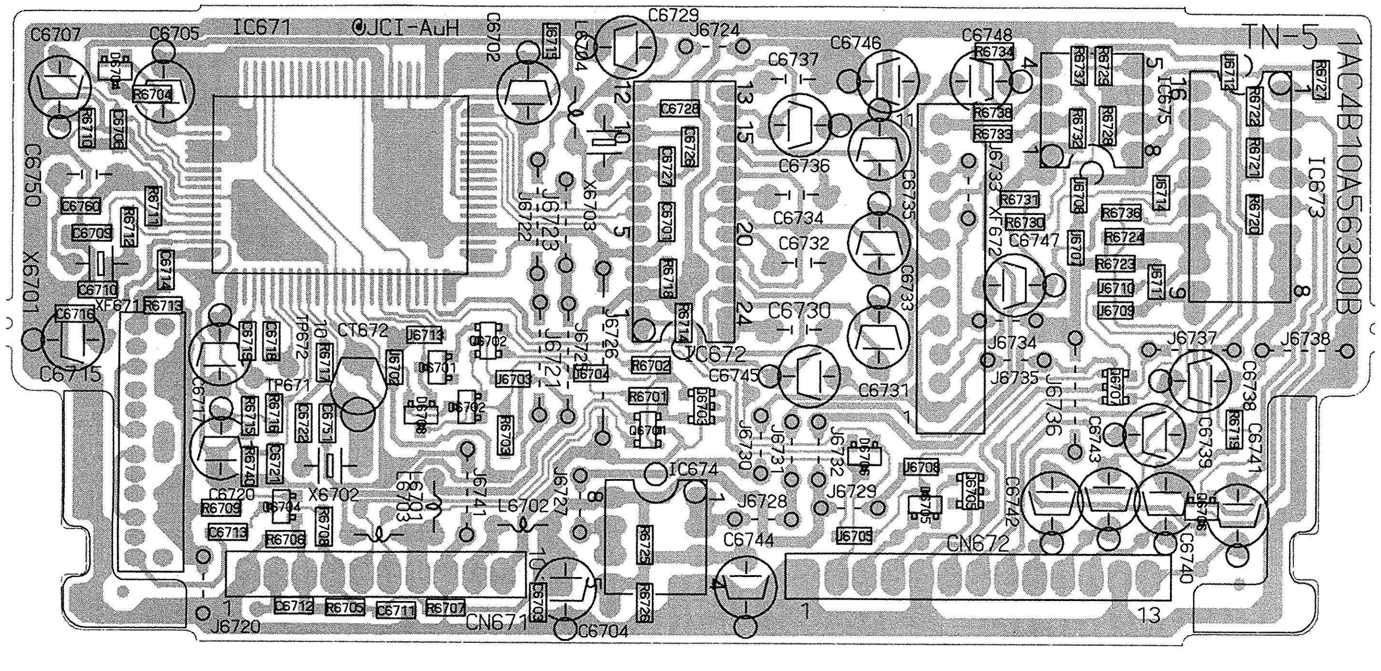
1AC4B10A56600B TB-1
JCI-AuH
AD OUT
LCH
RCH
AD IN
JK851
JK852
JK853
JK854
JK855
CN851 RF SW OFF ↔ ON
CN852
CN853
CN854
CN855
CN856
CN857
IC852
EDIT
AUX
EURO AV

VP-1 P.C.B.



1AC4B10A56900B VP-1
JCI-AuH
COMPL PCB, VP-A
LOC. NO. 1801--
COMPL PCB, AP-A
LOC NO. 2901-
AF REC
TP181
TP182
TP183
TP291
CN181
CN182
CN291
IC181
IC291
JW181

TN-5 P.C.B.



TN-5
1AC4B10A56300B
JCI-AuH
IC671
IC672
IC673
IC674
IC675
CN671
CN672
X6701
X6702
X6703
TP671

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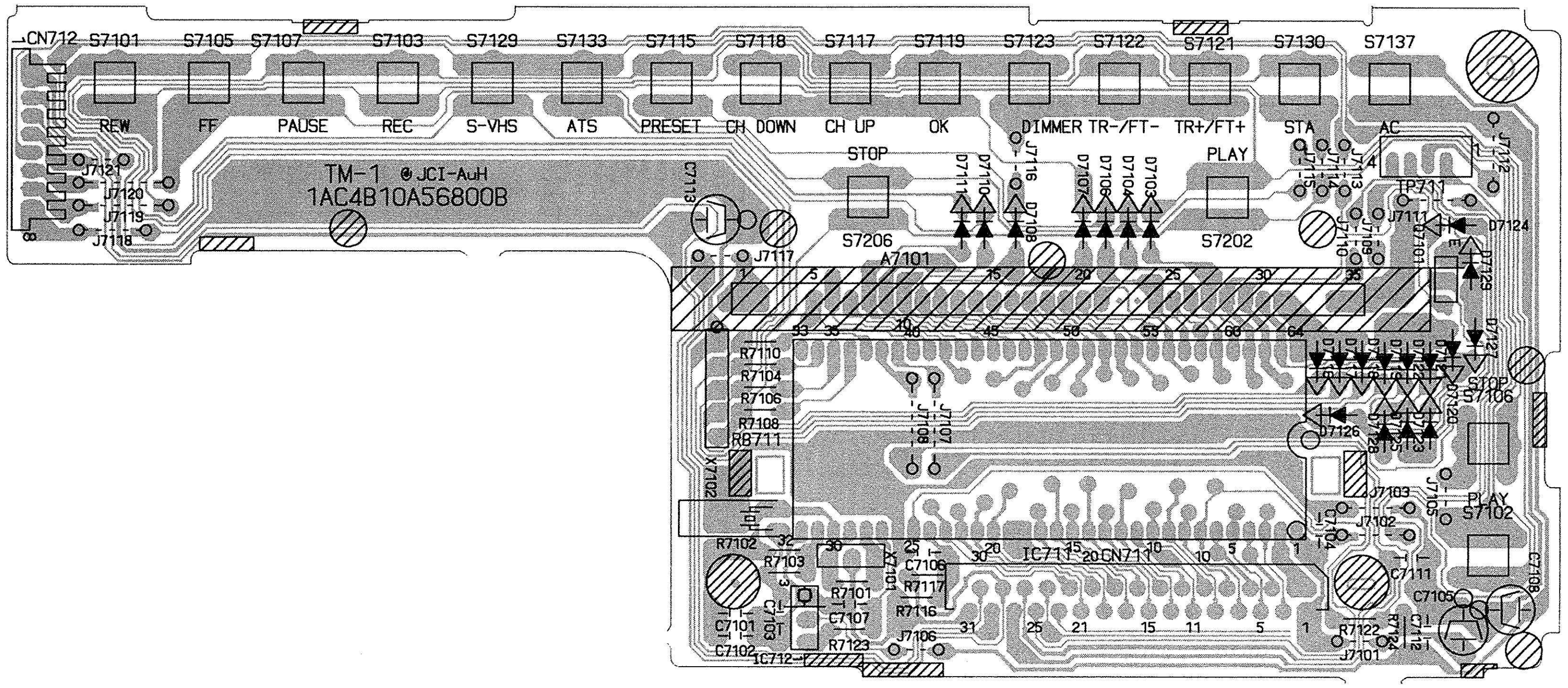
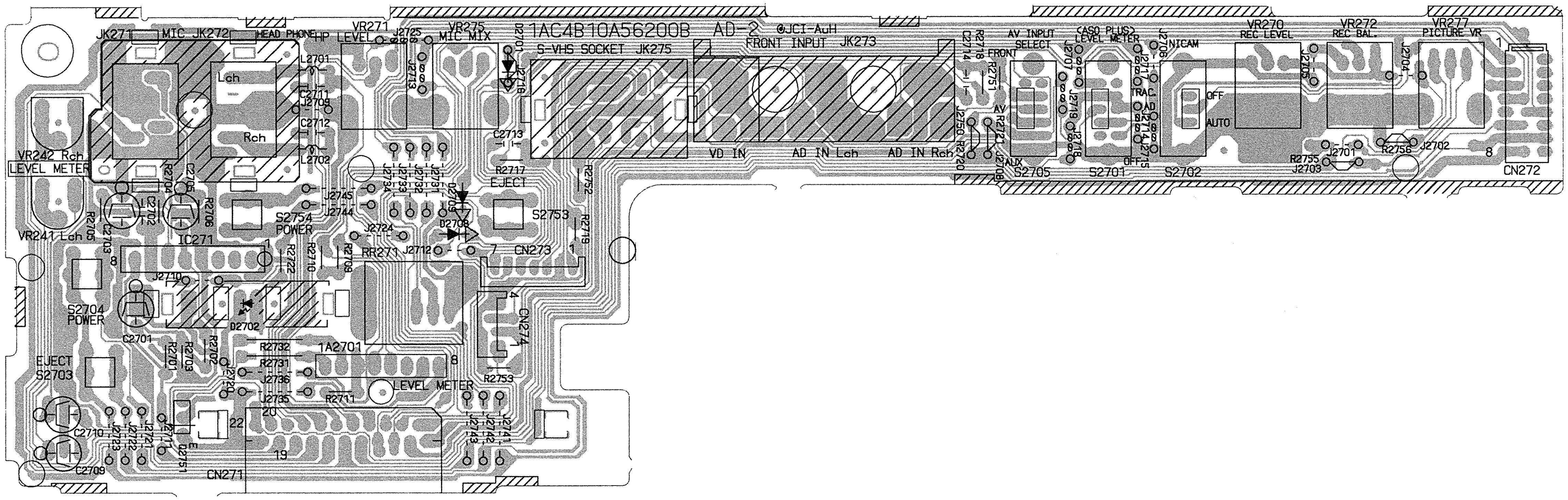
TM-1 P.C.B.

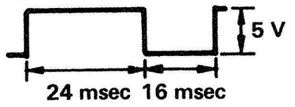
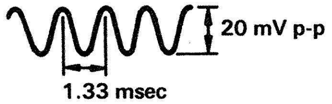
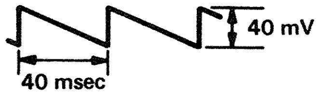
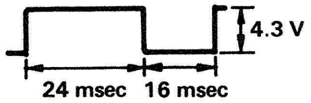
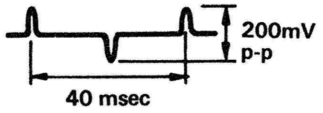
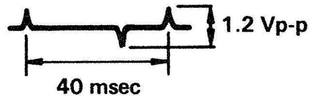
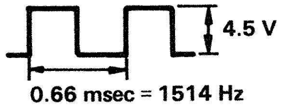
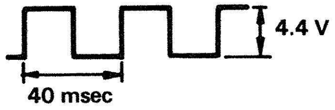
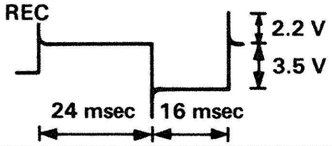
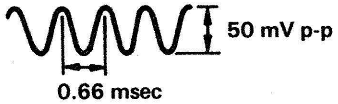
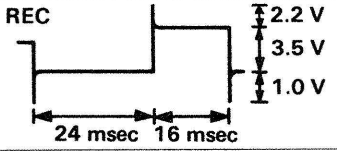
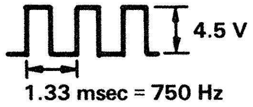

CN712
S7101
S7105
S7107
S7103
S7129
S7133
S7115
S7118
S7117
S7119
S7123
S7122
S7121
S7130
S7137
REW
FF
PAUSE
REC
S-VHS
ATS
PRESET
CH DOWN
CH UP
OK
DIMMER
TR-/FT-
TR+/FT+
STA
AC
STOP
PLAY
S7206
S7202
TM-1 ©JCI-AuH
1AC4B10A56800B
A7101
TP711
D7124
R7110
R7104
R7106
R7108
RB711
X7102
R7102
R7103
X7101
C7106
R7117
R7116
R7101
C7107
R7123
J7106
C7101
C7102
IC712
IC711
CN711
STOP
S7106
PLAY
S7102
D7126
J7103
J7102
C7111
C7105
C7108
R7122
J7101
J7117
J7118
J7119
J7120
J7121
C7113

AD-2 P.C.B.


JK271
MIC JK272
HEAD PHONE
HP LEVEL
VR271
VR275
MIC MIX
1AC4B10A56200B
AD-2 ©JCI-AuH
S-VHS SOCKET JK275
FRONT INPUT JK273
AV INPUT SELECT
<ASO PLUS> LEVEL METER
NICAM
VR270 REC LEVEL
VR272 REC BAL.
VR277 PICTURE VR
Lch
Rch
L2701
L2702
C2711
C2712
C2713
VR242 Rch LEVEL METER
VR241 Lch
IC271
S2754 POWER
R2717 EJECT
S2753
CN273
RR271
D2708
J2724
J2712
VD IN
AD IN Lch
AD IN Rch
FRONT
AV
AUX
S2705
S2701
S2702
OFF
AUTO
TRAC
AD
OFF
R2755
J2703
J2701
R2756
J2702
CN272
S2704 POWER
C2701
D2702
EJECT S2703
1A2701
R2732
R2731
J2736
J2735
R2711
LEVEL METER
R2753
CN274
C2710
C2709
D2751
CN271
22
20
19

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

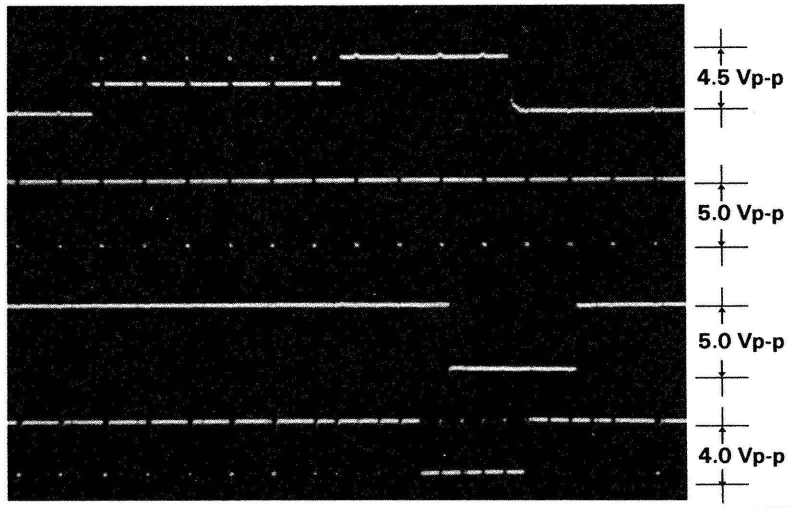
WAVEFORM OF SERVO

IC352 (LA7124 or LA7123)		⑫	REC  5 V 24 msec 16 msec	㉘	REC/PB  20 mV p-p 1.33 msec
③	P.B.  40 mV 40 msec	⑮	PB  4.3 V 24 msec 16 msec	㉙	PB  200mV p-p 40 msec
④	P.B.  1.2 Vp-p 40 msec	㉓ ㉖	REC/PB  4.5 V 0.66 msec = 1514 Hz	㉚	REC/PB 
⑦	REC  2.2 V 3.5 V 24 msec 16 msec	㉔ ㉕	REC/PB  50 mV p-p 0.66 msec		
⑧	REC  2.2 V 3.5 V 1.0 V 24 msec 16 msec	㉗	REC/PB  4.5 V 1.33 msec = 750 Hz		

V-LOCK PULSE GENERATION CIRCUIT WAVEFORM (IC391, Q3952, Q3953, D3951, D3952)

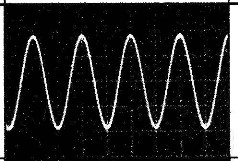
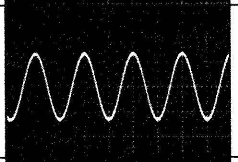
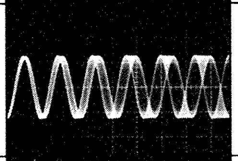
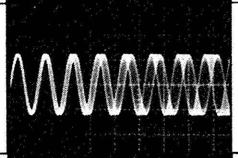
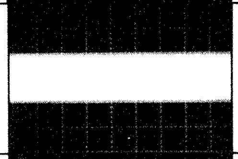
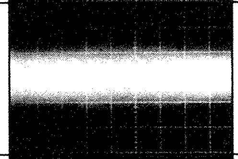
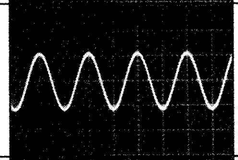
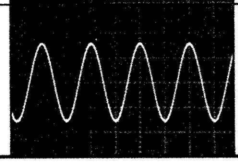
[STILL Mode]

1. V-LOCK PULSE OUTPUT
   - Cathode of D3951 and D3952
2. H-SYNC OUTPUT
   - Pin 2 of IC391
3. V-SYNC OUTPUT
   - Pin 4 of IC391
4. COMPOSITE SYNC INPUT
   - Pin 6 of IC391



WF-S-VP

WAVEFORM OF AUDIO

TEST LOCATION	WAVEFORM	MODE/LEVEL
IC201 Pin 68 (L ch) and Pin 78 (R ch)		REC 0.7 Vp-p AV Input
IC201 Pin 42 (L ch) Pin 23 (R ch)		REC 0.5 Vp-p Modulation Level
IC201 Pin 38 L ch		REC 1.2 Vp-p 1.4MHz Carrier
IC201 Pin 28 R ch		REC 1.2 Vp-p 1.8 MHz Carrier
CN202 Pin 4		REC 100m Vp-p 1.4M/1.8M AF REC
CN202 Pin 3		PB 1.5 Vp-p AF PB
IC201 Pin 56 (L ch) Pin 9 (R ch)		REC/PB 1.1 Vp-p AD Level
IC201 Pin 47 (L ch) Pin 20 (R ch)		REC/PB 1.5 Vp-p Audio Output

NOTE:
Audio input Condition is 1KHz sine-wave signal from AV terminal.

WF-A2

IC301 SYSTEM CONTROL & DIGITAL SERVO MPU PIN FUNCTIONS TABLE

No.	Name	I/O	I/O Signal Function
1	D-PG	I	Drum PG pulse input.
2	S-DATA IN	I	Terminal for communication of mode data with other microprocessors.
3	S-DATA OUT	O	Data is 8bitX12 block serial data.
4	SSB CLCK	O	The clock pulse is output from this microprocessor.
5	INSERT ON/OFF	I	Insert function ON/OFF terminal.
6	ENV SW	I	Video head selection signal (PB envelop detection signal) input for 4-head special playback.
7	DOC	I	Drop out detection pulse input. Used for absorbing STILL noise.
8	C-FG 2.	I	Capstan motor FG-2 signal input. Used for brake timing control at slow mode.
9	C-FG 1.	I	Capstan motor FG-1 signal input. (Capstan speed control)
10	D-FG	I	Head drum motor FG signal input. (Drum speed control)
11	PB CTL P.	I	CTL head playback pulse input.
12	COMP SYNC	I	Composite sync signal input.
13	RF SW P.	O	Output of RF switching pulse created by head drum PG.
14	AF SW P.	O	Output of Hi-Fi (FM) audio head switching pulse created by head drum PG.
15	VD P	O	Dummy VD (V LOCK) pulse output at special playback mode.
16	REC CTL	O	Recording control (CTL) signal output.
17	DRUM PWM	O	Head drum motor rotation (speed/phase) control signal output. (Signal as Pulse Width Moduration)
18	CAP PWM	O	Capstan motor rotation (speed/phase) control signal output. (Signal as Pulse Width Moduration)
19	A-VSS	-	Ground terminal for internal A/D converter.
20	AV REF	I	Reference voltage input for internal A/D converter.
21	AF ENV	I	Hi-Fi (FM) audio head envelope detection signal input for ATR function.
22	VD ENV	I	Video head envelope detection signal input for ATR function.
23	D-PG MM	I	CR for drum PG pulse delay. (Head switching position adjustment.)
24	SLOW TRK CR	I	CR for slow tracking adjustment.
25	DEW S.	I	Dew sensor input terminal.
26	OPTION	I	Terminal to alter internal specifications. (Set up input voltage: 0V for 2Head / 1.2V for 3Head / 5V for 4Head models)
27	T.TOP S.	I	Sensor signal input for tape beginning detection.
28	T.END S.	I	Sensor signal input for tape end detection.
29	RESET	I	Initial reset terminal for this IC.
30	VDD	-	IC power supply input. (5Vdc)
31	X2	-	IC clock OSC terminal. Frequency is 12MHz.
32	X1	-	
33	VSS	-	Ground terminal
34	H AMP SW	O	Video head amplifier (SP/LP head or SUB head) selection signal output. (4/3 HEAD models)
35	ROTARY	O	Chroma phase control signal output for 4/3 head models.
36	VD REC	O	Recording indication signal. Used for equiped rotary erase head models.
37	SLOW+STILL	O	Output signal indicating SLOW/STILL modes.
38	CTL GAIN DOWN	O	CTL head AMP gain control signal output.
39	-	-	
40	CAP F/R	O	Capstan motor forward/revers control.
41	DRUM P	O	Outputs the drum jitter compensation in the slow mode.
42	CAP STR/STP	O	Outputs the capstan motor start and brake pulses in the slow mode.
43	REMARK	O	Output the control (CTL) signal re-recording control signal. Three-value output (H, M, L).
44	FE CTL	O	Output the rotary erase head ON/OFF control.
45	ANT/VIDEO	O	Antenna through or video deck RF output select (Video when LOW).
46	AF REC	O	Hi-Fi (FM) audio head recording timing control signal.
47	LP H	O	"HIGH" output when tape speed is set to LP mode.
48	POWER UP	O	"HIGH" output except when power is off. Indicating that power is ON.
49	SPECIAL PB	O	Output in special playback modes (R/F-SEARCH, STILL and SLOW).
50	PB H	O	Signal indicating playback mode.
51	REC	O	Signal indicating recording mode.
52	INPUT SEL. V	O	Signal for selecting video input signal.
53	INPUT SEL. A	O	Signal for selecting audio input signal.
54	NORMAL/HIFI	O	Signal for selecting normal audio and Hi-Fi audio signal.
55	ST/L/R	O	Signal for selecting audio output signal (STEREO / Lch / Rch / NORMAL).
56	A.DUB	O	Signal indicating audio dubbing mode.
57	A MUTE	O	Signal disable Hi-Fi audio signal output.
58	A REC MUTE	O	Signal disable normal audio signal output.
59	A NOR REC	O	Signal indicating normal audio recording.
60	A NOR PB	O	Signal indicating normal audio playback.
61	ML-M	O	Loading motor rotation speed (medium speed) indication signal.
62	ML-L	O	Loading motor rotation speed (low speed) indication signal.
63	ML-R	O	Loading motor rotation direction (REV) indication signal.
64	ML-F	O	Loading motor rotation direction (FWD) indication signal.
65	FF+REW	O	Signal indicating FF or REW modes.
66	STLL+SLW2	O	Drop out pulse width selection signal output to DOC circuit.
67	VSS	-	IC ground terminal.
68	-	I	Normaly pull-up 5Vdc.
69	SP/LP	O	"LOW" output when tape speed is set to SP mode. "HIGH" is set to LP mode.
70	EDIT IN	I	Edit mode control terminal.
71	SW DATA 0	I	3-bit data indicating operation position of mechanism.
72	SW DATA 1	I	
73	SW DATA 2	I	
74	FL-START SW	I	Switch input indicating start of cassette loading or discharge by cassette mechanism.
75	SAFETY SW	I	Input terminal for accidental erasur prevention switch. No operation to recording mode while "LOW" is input.
76	-	-	
77	VDD	-	IC power supply terminal. (5Vdc)
78	T.REEL P.	I	Pulse input for detection of take-up reel table rotation.
79	S.REEL P.	I	Pulse input for detection of supply reel table rotation.
80	AV CTL	O	AV terminal (pin8 of 21pin AV socket) control signal output.

VP4H91SA

IC711 (M50959) TIMER MPU PIN FUNCTIONS TABLE

No.	Name	I/O	I/O Signal Function
1	VDD	-	IC power supply input. (5 Vdc)
2	I / BG	-	-
3	BLUE BACK ON	O	Blue back ON / OFF indicating signal output to OSD circuit.
4	BAND 1	O	Tuning band data output(BAND1,BAND2).
5	BAND 2	O	(L,L) = VHF-LOW , (L,H) = VHF-HIGH, (H,L) = UHF, (H,H) = SKIP
6	PWM	O	Tuning voltage output (PWM signal).
7	BILINGUAL	I	Audio transmission system indication signal (BILINGUAL) input from decoder circuit.
8	COMMON CLK	O	Terminal for communication of respective data with E2PROM IC, OSD IC or tuning PLL IC.
9	COMMON DATA	I/O	The clock pulse is output from this microprocessor.
10	E2PROM CS	O	E2PROM access (enable) signal output.
11	PAL / SECAM	O	-
12	CH +	O	CH+ terminal control signal output.
13	STEREO	I	Audio transmission system indication signal (STEREO) input from decoder circuit.
14	AUDIO MUTE	O	"H" output (Audio Signal Mute) during tuning period.
15	VIDEO MUTE	O	"H" output (Video Signal Mute) during tuning period.
16	OSD CS	O	Chip enable (access) signsl output to OSD IC.
17	SSB CLK	I	Terminal for communication of mode data with other MPU.
18	SSB SDA OUT	O	The clock pulse is input from system control MPU.
19	SSB SDA IN	I	Data is 8bit X 12 block serial data.
20	AFT C	I	AFT S-curve input terminal.
21	SD (H SYNC)	I	Horizontal sync detection signal input for exsistence channel discrimination.
22	VPS SCL	O	Clock shignal for VPS decoder IC.
23	VPS SDA	I/O	Data exchange with the VPS decoder IC.
24	POWER FAIL	I	Power failuer mode set at "L" input.
25	IR SIG.	I	Remote control signal input.
26	VSS	-	IC Ground terminal.
27	RESET	I	Initial reset terminal for this IC. Reset when "LOW".
28	X IN	-	IC clock OSC terminal.
29	X OUT	-	Frequency is 6 MHz.
30	XC IN	-	IC clock OSC used in the power failure mode.
31	XC OUT	-	Frequency is 32.768 kHz.
32	VSS	-	IC Ground terminal.
33	-	-	-
34	KEY IN 4	I	Operation key data inputs.
35	KEY IN 3	I	
36	KEY IN 2	I	
37	KEY IN 1	I	
38	Vpp	I	- 30 V input for display (FLD) drive.
39	AFT MUTE	O	"H" output during TU AFT mute.
40	SEG p	O	Display segment outputs (FLD). (Included key-scan output)
41	SEG o	O	
42	SEG n	O	
43	SEG m	O	
44	SEG l	O	
45	SEG k	O	
46	SEG j	O	
47	SEG i	O	
48	G9	O	Display grid outputs (FLD).
49	G8	O	
50	G7	O	
51	G6	O	
52	G5	O	
53	G4	O	
54	G3	O	
55	G2	O	
56	G1	O	
57	SEG h	O	Display segment outputs (FLD). (Included key-scan output)
58	SEG g	O	
59	SEG f	O	
60	SEG e	O	
61	SEG d	O	
62	SEG c	O	
63	SEG b	O	
64	SEG a	O	

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